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THE BUILDER

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Municipal Control of Town Architecture.

THE Ulster Society of Architects have been much and not unreasonably disturbed by a threatened new departure of the Belfast Corporation, in their proposed new Bill, in regard to the regulation of the city architecture by the authorities. This consists in the demand that every one who proposes to erect or alter the front wall of any building shall, in addition to the plan, section, and notice which are required by the existing local Acts of the Corporation to be lodged with the City Surveyor, also lodge, in the same manner and subject to the conditions prescribed by the Local Acts, a drawing or drawings showing all the elevations of the building overlooking any street or streets. These elevations are to show the height, character, and design of the building, and the height of any buildings immediately adjoining it on either side; and on the drawings is to be a statement of the materials proposed to be used.

This provision is contained in Clause 11 of Part V. of the Belfast Corporation Bill; and the clause proceeds as follows:—

"2. The Corporation may disapprove of such elevations on the ground that the same are in their opinion objectionable or that in any respect they are not in conformity with the requirements or provisions of the existing Local Acts or by-laws of the Corporation.

3. The provisions of the said Local Acts and By-laws shall so far as applicable for the purpose of and not varied by or inconsistent with the provisions of this Section apply *mutatis mutandis* to the matters referred to in this Section.

Any person aggrieved by a decision of the Corporation as to such elevations, may appeal to the Recorder against such decision, whose decision thereon must be final."

Paragraph (2) has since been modified in wording by substituting for the "Corporation may disapprove," "the Surveyor may disapprove," and in paragraph (3) "any person aggrieved by the decision of the Surveyor." This appears to be nominally putting more power into the hands of the Surveyor, though it is much the same thing in reality, as the Corporation would in any case be guided by the Surveyor in such a matter, and their objection would be practically his objection. One is not surprised however, that the architects of Belfast and the neighbourhood should think this a still more offensive and objectionable way of putting the matter, since it places the Surveyor, who may be a quite inferior person in an architectural sense, in the position of a judge over their designs, and the only appeal from his decision is to the Recorder, who is not an architect, and may in all probability know nothing at all about the subject.

It is not quite apparent what the Belfast Corporation are really aiming at in bringing forward this measure. There is no doubt that the wording of it would give them power to object to an elevation solely on the score that they (or their Surveyor) did not fancy the design, which would be an intolerable and most mischievous power to have, if it were in contemplation to exercise it to any considerable extent, or to endeavour to impose the taste of their Surveyor upon architects who may be far his superiors in artistic perception. It may, however, be only intended as a means of obtaining power to stop an outrageously bad design, such as would spoil a street in which there were already buildings of a superior architectural class: and if that were all, there is no doubt that there are instances in which the possession of such a power, and its practical operation, might be exceedingly beneficial. It really all depends on the spirit in which the regulation is intended, and the tribunal which is to decide.

The Ulster Society of Architects have obtained a counsel's opinion on this feature in the Belfast Corporation Bill, in which the learned counsel states that the promise to consider any proposed modifications of the clauses objected to was nothing to the purpose, as the whole principle is wrong:—

"In my opinion it would be impossible to frame any alternative clauses such as could, or ought to be formulated, or even sanctioned, by the Ulster Society of Architects, or by any one interested in the advancement of architecture, and especially by all companies or traders desirous of spending money in Belfast, either on the improvement of their old, or the erection of new buildings within the city of Belfast. If it were merely in form that these clauses were objectionable, then alternative ones might be substituted, but the object of part V. and the principles on which it rests are inherently faulty, and unprecedented in legislation. . . . . The object of the proposed clauses is presumably to

obtain uniformity of architecture in the city of Belfast, and that object is sought to be obtained by establishing an autocratic censorship in matters of artistic taste, on which the most divergent and fanciful ideas which (*sic*), from the nature of things, must always exist among a body of self-constituted censors.

Such a censorship could not but be injurious and intolerable to the profession of architects by killing all attempt at original architectural design in Belfast, and must of necessity interfere with the immemorial rights of private property and individual enterprise."

Now to say that such a demand is unprecedented is a mistake. It may be unprecedented in England, but if the Ulster Society and their Counsel look to Paris—a city renowned for the generally high style of its street architecture—they will find that in Paris the elevation of every new building has to be submitted to the Prefecture of the Seine, as well as plans and sections. It is true that it does not appear that it is a main object to sanction or object to the elevations in regard to their architectural design: the main object is the question of height, and area of internal courts, and construction; but there is no doubt that the Prefecture could, and would if it thought necessary in any particular case, refuse to sanction the elevation on the point of design, though we do not suppose this is often done. Again, in the case of a square or a terrace which has been symmetrically designed so as to be one architectural whole—as in the Place Vendôme, the Place de la Concorde, the Rond-point of the Champs Elysées &c.—the Paris by-laws give the Municipality the power to prevent any owner from altering or rebuilding his own front so as to interfere with the main design. Had we possessed this power in London, we should not, or at least need not, have seen the symmetrical design of Regent-street and the two circuses entirely destroyed as they have been by the caprice of private owners running up their fronts beyond the main line of cornice, and introducing architectural designs entirely at variance with the general design.

Those, therefore, who say that the power sought by the Belfast Corporation is without precedent have not looked beyond our own shores, or they would have seen precedent enough. The real complaint is against the unsatisfactory nature of the authority proposed. In Paris the decision rests with a committee which includes the architects who are officially attached to the Corporation; not one surveyor, who may be a man of little or no architectural perception, but several architects, who are men of position and standing. This matter of the tribunal is an obvious defect in the Belfast proposals; to give the City Surveyor power to sit in judgment on an architectural design, and to leave no better appeal from his judgment than to an official probably possessed of no architectural knowledge whatever, is a position against which we cannot wonder that the Ulster architects are up in arms. But it does not follow that the principle is altogether wrong. We admit that at the best it is a very difficult subject, and that much may be said on both sides; but the fact remains that in cities where more attention is paid to architecture than in most or any of our English cities, the power which the Belfast Corporation are seeking to have does exist, and that in our own capital city mischief has been done to our street architecture in some instances which might and ought to have been prevented, had we possessed any power of exercising a veto upon a design on purely architectural grounds, instead of merely controlling the practical questions of height, and frontage line, and materials of construction. No doubt such a power, if possessed by a Municipal Authority, ought to be exercised with great caution, and rather in a negative than a positive sense; not to favour any particular style, but to prevent the intrusion of any design manifestly beneath the general architectural character of a street, or at variance with its general design where such exists. The kind of tribunal proposed by the Belfast Corporation is no doubt most objectionable; but the architects have been rather too hasty in concluding that the existence of any controlling power at all must be an unmixed evil. It is a question not so easily settled, and deserving at all events careful consideration.

SIR WILLIAM CHAMBERS.

IT is the good fortune of Sir William Chambers that his largest and most important work is one of the best-known, most conspicuous, and most effectively-placed public buildings in London, enjoying the glory of a river frontage (somewhat shorn of its original effect by the subsequent intrusion of the Thames Embankment at its base), and in the immediate vicinity of one of the grandest of bridges, which groups admirably with the long level lines of its façade. Chambers therefore ought to have a name and fame among Londoners; though it may be doubted whether one in a thousand of those who cross Waterloo Bridge every day in the face of Somerset House could give the name of its architect; so little does architectural reputation count for in this country.

Among architects, and those who specially concern themselves with architecture, there has been a feeling of coldness towards Chambers and his school of late years; we have had Somerset House spoken of, by some modern writers on architecture, professional and lay, in a tone of depreciation with which we have no sympathy, and which we consider not in the least justified. It must be admitted, however, that Chambers was not an architectural genius to be classed with such men as Inigo Jones, Wren, Vanbrugh, Hawksmoor, and Barry. He was something of a pedant; a man who designed by rule rather than by instinct. But he is one of the best representatives of a school of architecture which was important in its day and generation—the school which based its work on the Orders as laid down and illustrated by the great Italian Renaissance architects; from his own point of view he was an arduous and earnest student of his art, and spared no pains either in study or in turning his studies to practical account in his designs; and in spite of the conventional toils of academical rule by which he was hampered, he sought and obtained a certain degree of originality both in general design and detail.

Chambers, though of English parentage, was born in Stockholm about 1726 (the precise date seems uncertain), where his father had gone in order to endeavour to gain redress for commercial losses which he had suffered in supplying Charles XII. with money and stores—losses said to have been owing to the depreciation of the coinage in which his house had been paid. The father therefore, was evidently a mercantile man of considerable means and importance, or he could not, in Dogberry's phrase, have "had losses" on so large a scale as to make it worth his while to leave England and take up a residence of two or three years in Sweden in the hope of recovering them. He returned to England in 1728, whether successful or not in his mission is not recorded. His son William was evidently intended to follow a commercial career, and at the early age of sixteen was appointed supercargo in a ship belonging to the Swedish East India Company, which made a voyage to Canton; and here the bent of his mind first manifested itself in the attention which he gave to the specimens of Chinese architecture around him, of which, having already some proficiency in drawing, he made a sufficient number of sketches to form subsequently the foundation of a small essay, with a collection of plates, on the architecture of the Chinese, published in 1757, after he had become established in architectural practice in London. How far the drawings in their published form are to be relied on seems rather doubtful, for he admits that it was almost impossible to make measurements, the Chinese being, as he describes them, a suspicious and ill-mannered generation, who, if they saw a European measuring on their buildings, were "apt to throw stones at him" and otherwise insult him; but the buildings figured are nevertheless all precisely drawn out in plan and elevation, in that hard, mechanical style of line shading with which we are familiar in the plates of the "Vitruvius Britannicus" and other eighteenth century architectural publications. Had he been content to copy his sketches, as sketches, his book would probably have had much more real value than it has at this moment; but there was at that time an established form for architectural publications, which as a matter of professional dignity must be adhered to, whether the materials for it really existed or not. To have published a book of sketches taken on the spot would have been to derogate; and the mere fact of publishing a book on Chinese architecture seems to have been regarded by Chambers's friends, if not by himself, as somewhat of a scandal to a properly educated architect. His defence of it in his preface is amusing in its way, touched as it is with certain dry sarcastic humour which crops out in all his writings from time to time:—

"Several of my good friends have endeavoured to dissuade me from publishing this book, through a persuasion that it would hurt my reputation as an architect; and I pay so much deference to this opinion that I should certainly have desisted, had it not been too far advanced before I knew their sentiments; yet I cannot conceive why it should be criminal in a traveller to give an account of what he has seen worthy of notice in China, any more than in Italy, France, or any other country; nor did I think it possible that any man should be so void of reason as to infer that an architect is ignorant of his profession, merely from his having published designs of Chinese buildings."

The argument would certainly hold good now; but in the days when all architecture was supposed to be mainly concerned in the designing and the use of the classic Orders, it may very well be imagined that an architect who published illustrations of Chinese architecture would have been regarded with

doubt, as a person who had neglected the weightier matters of the law for mere frivolities. And it may be said that the fact of his having given his first definite attention to architecture in its Chinese forms was not altogether beneficial to him, leading him rather to exaggerate the importance of the subject, and leaving behind it a certain taste for gimcrack effects which came to life again and asserted itself now and then, as in some of his designs for Kew Gardens in later days.

This first Chinese escapade, however, was soon supplanted, as far as study was concerned, by the orthodox tour in Italy and a careful study not so much of the works of antiquity as of the buildings of the most famous Renaissance architects—those of Michaelangelo, Sangallo, Palladio, Scamozzi, Vignola, Peruzzi, San Michele, and Bernini. According to his pupil and biographer Hardwicke, he selected these works for special study, rather than the remains of ancient Rome, as representing the work of men "whose designs were generally guided by the rules of the ancients, but whose extraordinary talents, exalting them above the character of mere imitators, produced an originality in their compositions that fully established their fame, and pointed them out as the fittest models for succeeding artists." In this estimation as to the essential originality of the leading architects of the Italian Renaissance, in spite of their reverence for the antique and for the rules of Vitruvius, Chambers and Hardwicke were perfectly right. To call the men of the Italian Renaissance merely scholastic architects is to do them quite an injustice, and to fly in the face of obvious facts; it is true that they were greatly under the influence of a reverence for Roman precedent, and that their details were all based at least on that; but they in many cases showed themselves as original thinkers in architecture, and made new and effective combinations out of the old materials. Chambers was well advised in thinking that they were more of artists than the Roman architects from whom they drew their inspiration. On the other hand, while perhaps judging rightly of Roman architecture, he appears to have been totally ignorant of Greek architecture, and to have set it down, without even taking the trouble to become acquainted with it, as an architecture inferior both to that of the Romans and the revivalists, even to the extraordinary mistake of supposing that Greek mouldings and detail were commonplace and wanting in refinement in comparison with Roman work.

His opinions on these points are embodied in his rather remarkable treatise on "The Decorative Part of Civil Architecture," first published in 1759 under the shorter and more comprehensive title "A Treatise on Civil Architecture"; and re-issued in a second edition in 1768, and in its third and final form in 1791, when the title was altered as above noted, in consequence of the fact that he had not found time to prepare a section going into the constructive side of architecture, and therefore adopted a title more precisely expressing the limits of the work.

It may be said that the "Treatise" and Somerset House form Chambers's two principal claims to distinction, and the Treatise is therefore worth some special consideration. It is the best, perhaps the only work written originally in English, in which architecture is fully and thoughtfully considered from the point of view which regards it solely as the application to buildings of classic orders and detail, and is a work still of importance to those who are going through the study of that phase of architecture. The author thoroughly understands his subject, and writes for the most part the lucid and polished English of a well-educated man, and his critical opinions are diversified occasionally by a certain quiet and half-satirical humour. His description of what an architect should be is characteristic of the man. Demurring to the tremendous list of qualifications so pedantically enumerated by Vitruvius, which he dismisses as impossible (in the spirit of Rasselas—"thou hast convinced me that no human being can ever be a poet"), he nevertheless lays it down in his "Introduction" that the architect must be a man superior both in acquired and natural gifts, "architecture being an active as well as a speculative art, the organs of sense and utterance are equally necessary with efforts of the mind; it naturally follows that such as intend to make it their profession, should enter the lists with a good stock of health, vigour, and agility; they should neither be lame nor unwieldy; neither awkward, slow, nor helpless; neither purblind nor deaf; nor have anything ridiculous about them, either natural or acquired." It is amusing to compare this opinion, which pretty plainly intimates Chambers's conviction of his own completeness in these respects, with the reason given by Allan Cunningham for his appointment, in his early days, to be tutor in architecture to the then Prince of Wales (George III.); the Earl of Bute, who had the matter in hand, being informed that not only was Chambers very skilful, but also that "his person and manner were not only unexceptionable, but inviting"—he was a fit person, in short, to be about a Court and to instruct a Prince; and there seems little reason to doubt that Chambers owed some at least of his professional success to his agreeable personality and manners. His sketch of the subjects with which an architect should be acquainted, and the range of his studies, is a reasonable and sensible one, tolerably extensive it is true, and beyond the powers or the opportunities of many, but not including anything which is not really of value in the practice of architecture; nor does he forget the more prosaic requirements of business-like capacity in accounts and estimating. His remarks on the advantage of travel to an artist, in stimulating his imagination, are admirably put and with a good deal of eloquence. He sums up:—

"By travelling, a thorough knowledge of different countries, their language and manners, are alone to be attained in perfection; and by conversing with men of different nations, we learn their opinions, hear their reasons in support of them, and are naturally led to reason in our turn—to set aside our prejudices, reject our ill-founded maxims, and allow for granted only that which is clearly approved, or is founded on reason, long experience, and careful observation."

From the Introduction we pass to the "Origin and Progress of Building," which includes much the kind of half imaginary but not improbable sketch of the use of the habitation which is to be found among other writers on what may be called the philosophy of architecture; but it contains passages in which, as the author says at the close, he "has ventured to think for himself." While uttering the very questionable dictum that "the antique is to the architect what nature is to the painter—the source from which his chief knowledge must be collected, the model upon which his taste must be formed," he is careful to rebuke that "blind adoration of antiquity" which finds everything done by the Romans a fit model for imitation—"in Rome, as in London or Paris, there were a few great architects, but many indifferent ones"; and he goes on to say, with truth enough, that in the constructive part of architecture the ancients do not seem to have been great proficients, and that the strength and duration of the Roman buildings is more due to the quantity and goodness of their materials than to any great art in putting them together. This is true enough, but it is amusing to read in another paragraph that "many of the deformities observable in the Grecian buildings must be ascribed to their deficiency in that particular [constructive skill], such as their gouty columns, their narrow intercolumniations, their disproportionate architraves," &c. Chambers had never seen the remains of a Grecian building *in situ;* there were no photographs in those days, and up to his time, as far as we know, no good or reliable drawings of Greek work,* so that it is difficult to understand on what he relied in uttering this very decisive opinion; he must have been speaking entirely in the dark. But his remarks upon Gothic, where he had the acquaintance of the actual buildings, show much more insight and breadth of view:—

"To those usually called Gothic architects we are indebted for the first considerable improvements in construction; there is a lightness in their works, an art and boldness of execution, to which the ancients never arrived, and which the moderns comprehend and imitate with difficulty. . . . One cannot refrain from wishing that the Gothic structures were more considered, better understood, and in higher estimation, than they hitherto seem to have been. Would our dilettanti, instead of importing the gleanings of Greece—or our antiquaries, instead of publishing loose incoherent prints, encourage persons duly qualified to undertake a correct elegant publication of our own cathedrals and other buildings called Gothic, before they totally fall to ruin, it would be of real service to the arts of design, preserve the remembrance of an extraordinary style of building now sinking fast into oblivion, and at the same time publish to the world the riches of Britain in the splendour of her ancient structures."

These are remarkable words to have been written by an eighteenth-century architect; and in this respect at least Chambers was far in advance of his time. He would have been surprised indeed could he have known

* "Stuart and Revett" had not appeared when the first edition of the "Treatise" was published, though it had appeared before the third edition. The Institute library does not possess the first edition of the "Treatise," and we have not been able to see it elsewhere, so we cannot say whether these remarks were included in the first edition. The following passage looks almost as if it were an insertion in the later edition, prompted by the publication of Stuart and Revett's book:—

"Indeed, none of the few things now existing in Greece, though so pompously described, and neatly represented, in various publications of our time, seem to deserve great notice, either for dimension, grandeur of style, rich fancy, or elegant taste of design; nor do they seem calculated to throw new light upon the art, or to contribute towards its advancement; not even those erected by Pericles or Alexander, while the Grecian arts flourished most; neither the famous lantern of Demosthenes, nor the more famous Parthenon; which, though not so considerable as the church of St. Martin, in St. Martin's-lane, exclusive of its elegant spire, had for its architects Phidias, Callicrates, and Ictinus; was the boast of Athens; excited the envy and murmurs of all Greece."

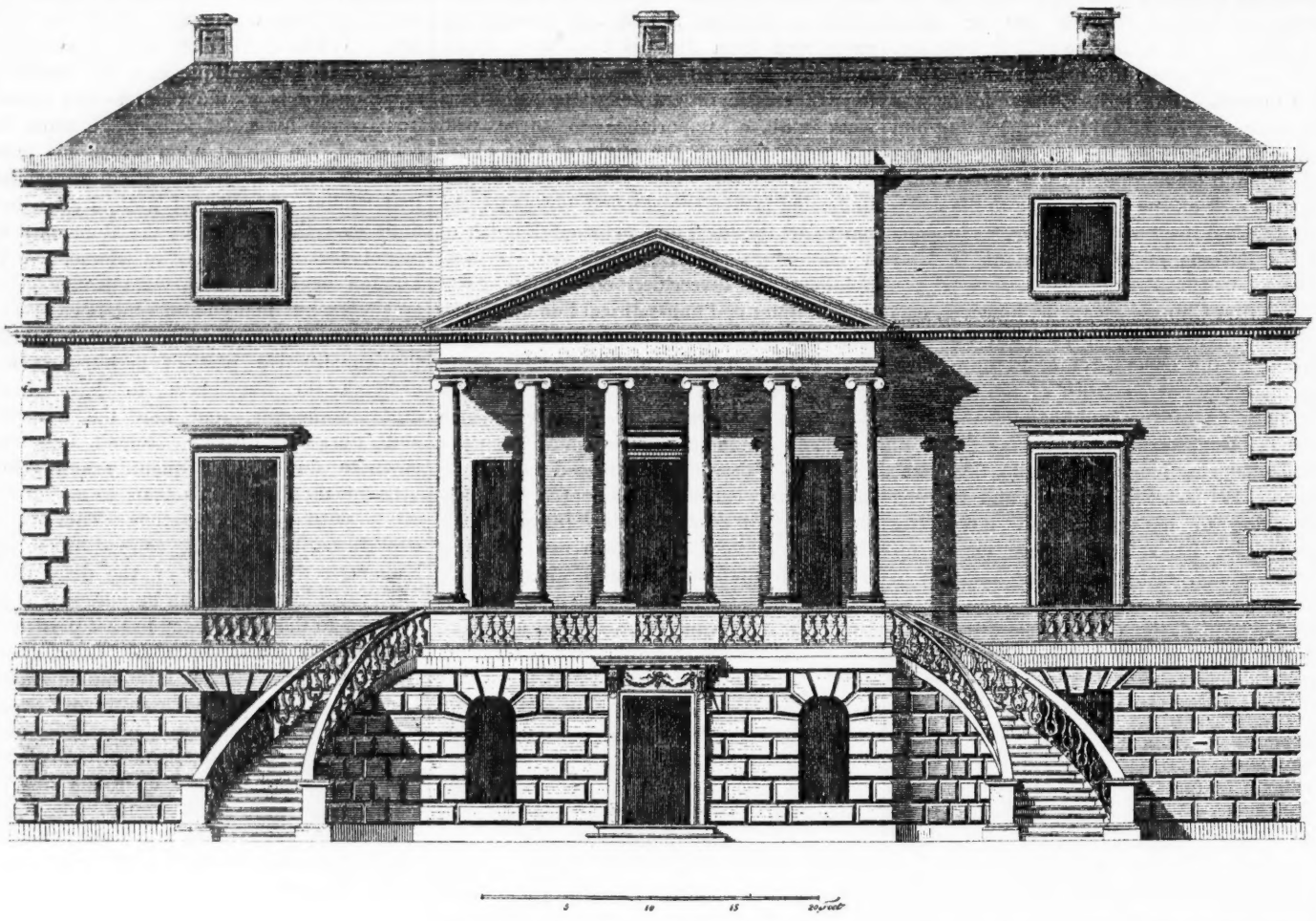

Fig. 1.—Elevation of Villa, Rochampton.

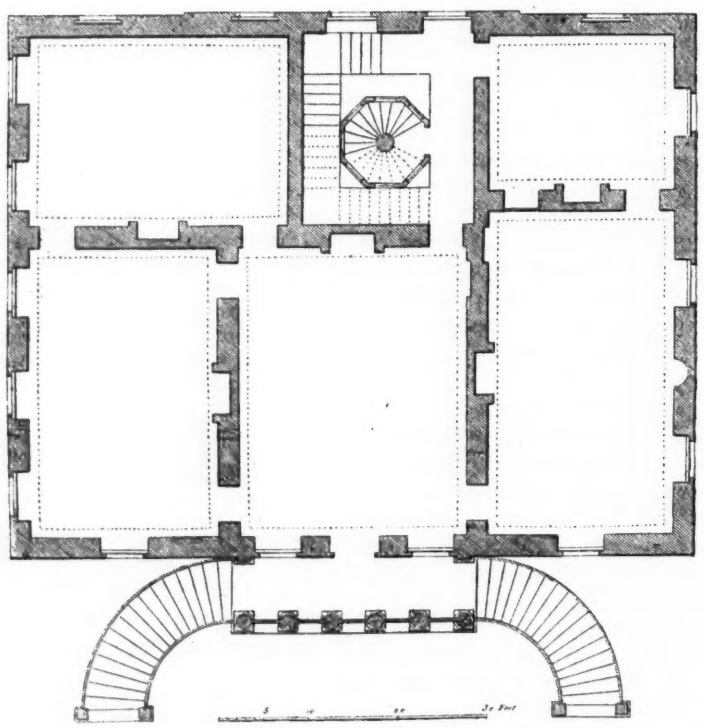

Fig. 2.—Plan of Villa, Roehampton.

how more than completely his aspirations were to be fulfilled in the following century.

In the chapter on "The Parts which Compose the Orders of Architecture" we have the usual description of the recognised mouldings of the Classic school, but Chambers shows a certain discrimination in grouping them into two types, those which originally represented necessary portions of the structure, such as mutules, modillions, and dentils, and those which are purely ornamental; a division of the subject certainly useful to a student, as inviting him to a consideration of the thought and intention which no doubt originally lay beneath forms which have since been employed rather by rote and habit than by any consideration of their function in reference to architectural expression. We cannot follow him through his analysis of the various Orders, which from the "Orders" point of view of architecture is, however, exceedingly well done, and renders this treatise one of the best that the student can take in hand in going through the subject. Here and there, however, we come upon an original remark worth noting. For instance, after describing the care with which he had himself studied and measured the best Roman and Renaissance examples in regard to the proportions of their parts, he continues:—

"Sensible he is that the extraordinary degree of accuracy which has been aimed at in these compositions is of little consequence to the generality of spectators, who see in the gross and feel by the lump. Nevertheless, as in poesy, music, painting, and indeed all arts, there are delicacies which, though they escape the vulgar notice, afford uncommon pleasure to persons of enlightened conception, so in architecture this kind of perfection is the source of secondary pleasures less forcible perhaps, but not always less delightful than the first."

This is very well put, and represents the essential distinction between the learned and the unlearned perception of architectural detail. There are some good critical remarks in the chapter on pilasters, though he starts with showing that he totally misunderstands the object and function of the Greek *antæ*, which were not supposed to be pilasters in the Roman sense, but projections of the *cella* wall treated so as to make a kind of "answer" to the column; he complains of the fact that "neither their bases nor their capitals bore any resemblance to those of the columns they accompanied," not seeing that this was just a characteristic Greek refinement of architectural expression, to distinguish the *antæ* as different objects from a column, with a different function. In his chapter on "Intercolumniations" he quotes Blondel to the effect that when colonnades are composed of more than one row of columns, they should not be of circular or polygonal figures, because the true disposition of the columns is in that case only seen from the centre of the figure (he means the centre of the circle from which the curve of the supposed colonnade is struck); and Chambers supports it with the words—"This remark is very just. I have frequently observed and regretted the bad effect of a

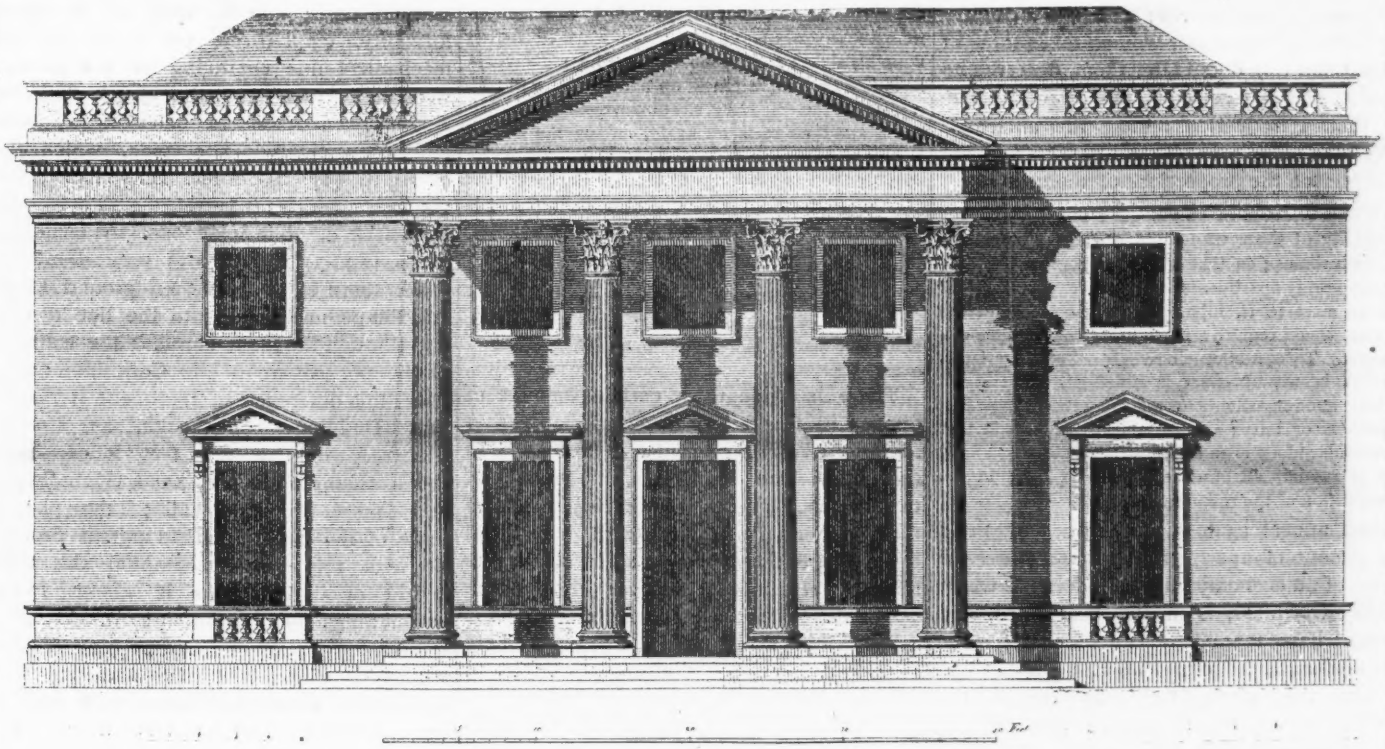

Fig. 3.—Elevation of Duddingstone House.

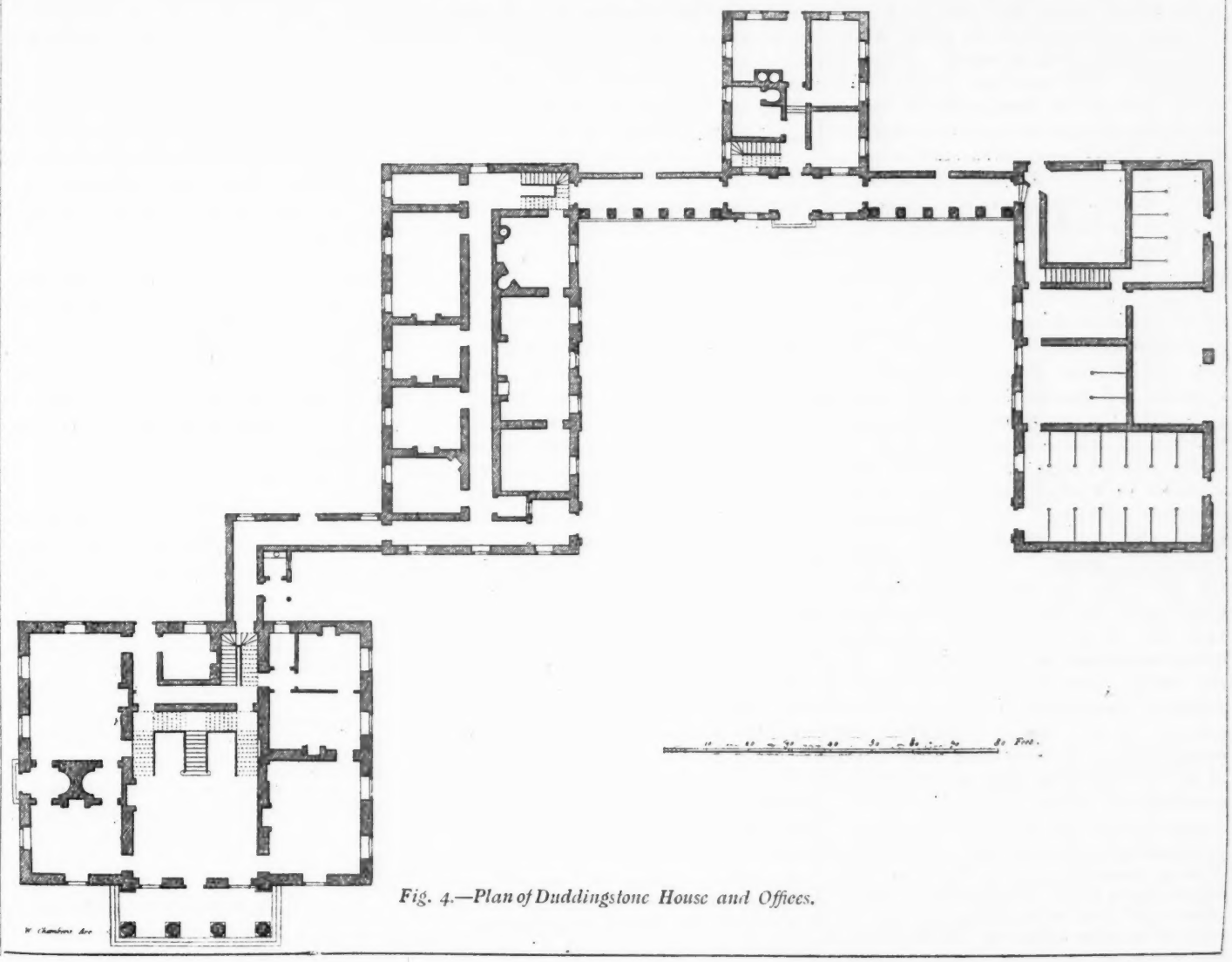

Fig. 4.—Plan of Duddingstone House and Offices.

circular disposition in the above-mentioned magnificent structure [Bernini's colonnade at St. Peter's], where the four ranges of columns of which the colonnades are composed offer nothing but confusion to the spectator's eye from every point of view." This is a curious example of the Renaissance passion for neatness and symmetry in architectural disposition, which was peculiarly developed in Chambers's mind; he could not bear anything irregular or "incorrect." Yet we may ask, is not that very "confusion" which, as he says, results from the employment of colonnades of two or three deep in a circular peristyle, exactly an element of picturesque effect in architecture? Bernini had great faults, but in his way he was certainly more of a genius than Chambers, and could soar to something higher than orderliness.

Among the chapters on gates, doors, windows, and other portions of buildings, there is a good deal of really good criticism and suggestion mixed up with rules and regulations which are purely academical. It is amusing to notice, after the author's condemnation, from the point of view of design, of doors with sloping jambs, and narrower at the top than at the bottom, the remark as to one valuable property which they possess—

'They shut themselves; which, in a country where neither man nor woman takes thought about shutting doors after them, deserves its praise, and was perhaps, the original cause o their introduction among the ancients." We may quote one other remark, from the hapter on the proportions of rooms :—

"The coldness of our English climate, and the frugality of those who build, are strong objections to high rooms; so that we frequently see the most magnificent apartments not above 15 ft., 16 ft., or at most 18 ft. high, though the extent of the rooms would require a much more considerable elevation. This practice is however not to be imitated, where beauty or effect is aimed at. There are many good expedients for warming rooms, however spacious or lofty; and to consider expense in that particular alone is an ill-judged piece of parsimony, as it renders all other expense employed in the decoration of the room ineffectual."

This appeal against the mean and timid treatment of apartments of State, under the plea of an economy which renders the whole thing worthless, is in the best spirit, and might have many applications in reference to modern architectural work.

On the whole, we may regard the "Treatise on the Decorative Part of Civil Architecture" as a monumental production of its time and of its class, highly creditable to its author when we consider it with reference to the period at which it was written and the ideas in regard to the art of architecture which were then prevalent. The author at all events understood the subject thoroughly from his own point of view, and many of his critical remarks are of value as suggestions and exhortations in a sense wider than that in which they were originally intended. His remaining essay, "A Dissertation on Oriental Gardening," published in 1772, occasioned in its day a commotion quite out of keeping with its real value, and in fact we believe was misunderstood both in the writer's own day and by some of his more recent biographers and commentators. We take it that with the exception of the preface, which is in earnest enough, the book was really a solemn joke, partly satirical, partly intended to mystify the public. It was obviously prompted to a considerable extent by a personal feeling against "Capability Brown," who had obtained the commission for laying out an important estate which Chambers would have liked to have laid out, and in which he would unquestionably have done much better. It is this which gives point to the following sarcastic description of the "English garden" of his day—a description little exaggerated, as we know from other records of Brown's method of dealing with the surroundings of a house :—

"Our gardens differ very little from common fields, so closely is common nature copied in most of them. There is generally so little variety in the objects, such a poverty of imagination in the contrivance, and of art in the arrangement, that these compositions rather appear the offspring of chance than design, and a stranger is often at a loss to know whether he is walking in a meadow or in a pleasure-ground, made and kept at a considerable expence. He sees nothing to amuse him, nothing to excite his curiosity, nor anything to keep up his attention. At his first entrance, he is treated with the sight of a large green field, scattered over with a few straggling trees, and verged with a confused border of little shrubs and flowers; after further inspection, he finds a little serpentine path, twining in regular esses (*sic*) among the shrubs of the border, upon which he is to go round, to look on one side at what he has already seen—the large green field, and on the other side at the boundary, which is never more than a few yards from him and always obtruding upon his sight; from time to time he perceives a little seat or temple stuck up against the wall; he rejoices at the discovery, sits down, rests his wearied limbs, and then reels on again, cursing the line of beauty; till spent with fatigue, nearly roasted by the sun, for there is never any shade, and tired for want of entertainment, he resolves to see no more; vain resolution! There is but one path; he must either drag on to the end, or return back by the same tedious way he came. Such is the favourite plan of all our smaller gardens, and our larger works are only a repetition of the smaller ones; more green fields, more shrubberies, more serpentine walks, and more seats."

There is evidently a certain amount of temper in this satirical description; *fecit indignatio versum;* but it was pretty true in the main. The description, in the body of the treatise, of what the Chinese did with their gardens, is obvious and intentional hyberbole, and in some passages there is a satirical intention of another kind, which seems also to have been missed: *e.g.*, "it is not in China as in Italy and France, where every petty architect is a gardener . . . . in China gardening is a distinct profession," &c. Considering that Chambers had elsewhere complained of Brown or some other landscape gardener encroaching on what is properly the architect's work, it is obvious that this is really meant to point at a country where "every petty gardener is an architect"; but his satire was evidently not taken, and his hyperbole on the other hand was taken for earnest, and made the subject of a satire in a mock-heroic poem by one MacGregor, which seems to have attracted immense attention at the time, but has no value now but for the fact that one peculiarly malicious couplet in it has the honour of citation in Boswell's "Life of Johnson."*

Turning from these rather unprofitable and forgotten literary excursions to Chambers's architecture, we may first mention two of his houses which are especially celebrated and especially characteristic of the architectural taste of their time; the "Villa" (so-called) at Roehampton, built for the Earl of Besborough, and the mansion at Duddingstone near Edinburgh, originally built for the Earl of Abercorn. They are almost exactly the same size; Duddingstone has about 5 ft. longer frontage than the other; and both represent the type of house which consists externally of a nearly plain cube of building, diversified only by a columned and pedimented portico in the centre of the principal front. There is this important distinction between them, however, that at Duddingstone the principal floor is the ground floor, raised by only a few steps above the ground level; at Roehampton the principal floor is the first floor, approached from without by those double curved stone staircases which are so charming a feature in many an eighteenth-century house, and the beauty of which ought in our opinion to far outweigh the supposed inconvenience which modern notions of comfort and accessibility discover in them. It is perhaps this difference of treatment which made Roehampton, in the dialect of the time, a "Villa," while Duddingstone is a house. Roehampton, the earliest of the two, is by far the more pleasing externally. We give a reproduction of the elevation (fig. 1) from the "Vitruvius Britannicus"; and in spite of its prim formality, emphasised yet more by the mechanical line engraving of the period, it is impossible not to be struck with its singularly harmonious balance of parts and proportions. The plan, which we also give (fig. 2), is simplicity itself; the manner in which the servants' stair is worked inside the other is ingenious. At Duddingstone (fig. 3) the general proportions are lower, there is no rusticated ground story, and the pediment cuts into the line of roof and through the main cornice; the columns of the portico are of the Corinthian order. From this difference of treatment it results that Duddingstone, though, as already observed, only a few feet longer than the Roehampton house, has a much larger and more dignified air; the larger scale of the Order also has a great deal to do with this; at Roehampton the total height of the columns is about 13 ft., at Duddingstone it is about 27 ft. We give the complete plan of Duddingstone (fig. 4), which is interesting as showing the manner in which the offices and stables are planned, and connected to the house. At Duddingstone the staircase is made a prominent feature in the central hall (*see* plate), treated in a stately manner with symmetrical flights rising right and left from the single lower flight; another point which greatly emphasises the difference in character between the two houses. Both in plan and design, in fact, these two houses are very good examples of the manner in which the character and scale of two buildings which in mere measurement are of very nearly the same size, may be rendered completely different in effect by the nature of the architectural treatment. We give an illustration also of one of the fireplaces from Duddingstone (*see* plate), an example of a somewhat fanciful treatment of classic materials which shows how Chambers could exercise his own individuality in the design of ornamental detail.

The front of Trinity College, Dublin, shown in one of our plates, exhibits the same kind of architectural idea as these two houses; a central colonnade supporting a pediment, with plain masses on each side, in this case terminated at the ends by pavilions with a pilaster order. This though dignified, is not a very recondite type of architecture; but the "Marino" at Clontarf, of which we also give an illustration, is a peculiarly good specimen of Chambers's quality as an architect; being an essentially ornamental type of building, it is exactly the thing for an architect to deal with whose *forte* lay in decorative application of the orders, and it is an exceedingly harmonious and dignified piece of modern Classic architecture. The preparation of designs for the various erections, also largely ornamental, for Kew Gardens, should have also have been a type of work to bring out Chambers's best qualities; but their interest is a good deal weakened by the fact that they are to a great extent sham constructions; imitations of masonic structure in more perishable materials. The best among them is the often-illustrated "Temple of the Sun," which has the merit of distinct originality as well as elegance. The design for the entrance gateway to the forecourt of the house which was afterwards the Albany (*see*

* "Witness ye Hills, ye Johnsons, Scots, Shebbeares,
Hark to my call, for *some* of you have ears:"
a brutal allusion to the mutilation occasionally attendant on punishment in the pillory.

plate) is a really picturesque piece of work of its kind, and the iron railing accompanying it shows that Chambers had considerable feeling for design of this class; his railings are novel and graceful in treatment. Among the Soane Museum drawings is a large one for a remarkably fine iron lamp standard designed for execution in connexion with Somerset House—it is included at least in a portfolio of Somerset House drawings, and is a most meritorious piece of decorative work for its time.

But Chambers's real title to fame as an architect is bound up with Somerset House, but for which he would hardly be much remembered except as the author of the "Treatise on Civil Architecture." It was an extraordinary piece of good fortune that towards the latter end of his professional life, in 1775, after having been occupied mainly in scattered works of no great magnitude, Chambers should have received the commission to carry out a Government building on a great scale and on a site so remarkably prominent and so calculated for architectural effect. And Chambers did well with his opportunities. However we may find the building to be what may be called somewhat *hard* in detail, wanting that modelled effect which Inigo Jones or Hawksmoor would have known how to give to it, the river front, with its powerful rusticated and arched terrace wall as a base, and the more refined and delicate architecture of the main building rising above it, is an exceedingly fine piece of architectural scenery; and the idea of making the great central block and the ends of the two side wings all one façade towards the river, connecting them architecturally and yet marking the actual disconnexion between them by those picturesque open colonnaded bays, comes nearer being a stroke of real genius (if indeed it does not deserve to be called so) than anything else Chambers ever did. We have given an illustration, made specially for this issue by Mr. W. Monk, of the appearance of the river front before the making of the Thames Embankment, which, however great an engineering work in itself, has much injured the effect of Somerset House. The Strand front, it must be admitted, is tamer than this, and more in Chambers's ordinary and rather conventional style. The effect of the quadrangle is hardly all that it might have been made, and it is not improved by those weak-looking square clock turrets on the east and west sides, which almost look like subsequent additions by another hand; they are, however, shown in an apparently contemporary perspective view in the Soane Museum. The carriage gateway from the Strand, with its coupled columns, is a peculiarly elegant bit of academical architecture of its kind, and the vestibules opening right and left, with their circular staircases, must have had an admirable effect when intact. It is melancholy to see these, as well as the large vestibule of the navy office in the centre of the south block, cut up into offices and deprived of all their intended effect, simply for the sake of economising space. In some countries, at all events, a building by an eminent architect would not have been allowed to be spoiled in this way, for no better reason than a miserable economy.

There is much more in Somerset House than outward architectural display, for the site was a most difficult one to deal with, partly on a declivity and partly on the actual bed of the river, occasioning an immense expenditure of work in foundations, the actual and practicable sub-structure of the building extending far down below the level of the court-yard. In his Report on the progress of the work delivered in May, 1780, Chambers says:—

"The work is all faced with stone, is built of the best materials in the most substantial manner possible, and set on brick foundations, a great part of them laid in the bed of the river, with various expensive but necessary precautions, and others sunk through loose made ground, 10, 12, and even 16 ft. deep. The greatest part of the vaults too, surrounding the area of this large quadrangle, are turned, as also a great part of the cross passage of communication from the areas on one side to those on the other, which are all built of hard Grey-stocks, with stone plinths necessarily set in most parts on very deep brick foundations."

It is not surprising that with all this work swallowed up in foundations, the building should, even in those days, have cost half-a-million to complete.

Taking into consideration his successful dealing with the practical difficulties of the site, and his fine treatment of the river front, it may be said that in this building Chambers showed himself a true and all-round architect, combining the qualities of the engineer and the artist; and that the result, if not in the highest sense a great building, is a very fine work of architecture, of which London may well be proud, and for which the name of its architect should be had in perpetual honour.

NOTES.

Royal Commission on Coal Supplies.

A ROYAL Commission has just been appointed to inquire into the question of the coal supplies of the United Kingdom. One of the terms of reference is to "inquire into the extent and available resources of the coalfields of the Kingdom." Whilst we agree that some of the other points referred to the committee are very good in their way, we do not see that the "extent and available resources" need much further elucidation. What is the Geological Survey for, if it has not already particulars concerning these matters at its command? It is quite certain that any evidence taken in regard to this aspect of the inquiry will come directly from the Survey Office, and the geological world has been in possession of as much information as can be positively given, for some time. It is a matter of common knowledge with the majority of those who take an interest in our mineral resources, as to the approximate quantity of coal available in most of our coalfields. Where the seams have a high dip, and extend at great depths underground, or pass from a "basin" under a great thickness of overlying rocks, and are "lost," or are of problematical occurrence only, the facts are sufficiently well-known to have enabled the Geological Survey Office to have given an account of them without requiring a Royal Commission to bring the particulars to light. Indeed, we believe that such information has already been furnished to Government Departments from time to time. Other terms of reference are as to the rate of exhaustion, and here the Commissioners are required to be prophets; the effect of our exports of coal on the home supply; the possibility of a reduction in cost by cheaper transport, or by the avoidance of unnecessary waste in working; and whether the mining industry under existing conditions is maintaining its competitive power with the coalfields of other countries. These are, broadly speaking, the chief problems the Commissioners have to solve, and there is no doubt that we could do with some more information than we already possess concerning some of them with advantage. There is a danger, however, of the economic points being treated in a theoretical manner by the rigid application of the laws of political economy; but the Commissioners appointed are all of them well qualified to deal with the various subjects, and if they work instead of going to sleep, as most Royal Commissioners seem to do, the inquiry generally should have fruitful results.

The Electric Railway Fire.

THE fire by which four railway servants and two passengers lost their lives on the Liverpool Overhead Railway seems to have been due to very exceptional circumstances. When the train was in the tunnel at one end of the line near Dingle Station a short circuit took place in the armature of a motor in the last carriage. Apparently it was a very heavy short circuit, as every time the driver switched on to start the train the glow-lamps burned dimly. The armature of the motor ultimately caught fire, and as a gale of wind was blowing straight into the mouth of the tunnel so strongly that it was almost impossible to keep a hat on in it, the flames spread rapidly. Ten minutes after the outbreak the rear coach was well on fire, and the flames had spread to the middle coach. In the meantime all of the twenty-nine passengers had got out of the train, and most of them had walked straight to Dingle Station and got out into the street. A few stayed behind to watch the burning train, and it was amongst these that the fatalities occurred. A pile of creosoted sleepers about 20 ft. in front of the burning train caught fire, and this caused the final catastrophe. The smoke and the heated products of combustion blown fiercely down the tunnel overcame six of those struggling to escape. At the Board of Trade inquiry last week Mr. Cottrell, the engineer of the line, stated that the passengers had thirty minutes to escape from the train. During the nine years this railway has been working this is the first serious fire caused by a motor in the driver's cab. If the motor had been entirely enclosed, like a tramway motor, it could not have happened. At Dingle Station the appliances for putting out fire were numerous and in working order, but the gale and the blinding smoke rendered the gallant attempt to put out the fire ineffective. The directors are taking the precautions which the calamity proves to be necessary. The platform at the station is being rebuilt of stone, and all unnecessary timber is being eliminated from the line.

Profit Sharing by Workmen.

MR. LIVESEY'S letter in the *Times* in which he points out that profit-sharing by workmen is the best antidote for slackness in work, is undoubtedly true. The difficulty is, however, that the moment a workman becomes a partner with the master he has, to some extent, to share in the lean as well as the fat years. But it is quite certain that in some such system the masters will find

the best solution of the difficulty which presents itself in regard to workmen doing less work than they reasonably could. So long as an artisan reaps no advantage by doing a larger amount of work in the day than he now does, so long will the present troubles exist. It has also to be borne in mind that in some trades it is comparatively easy to arrange a reasonable system. Mr. Livesey instanced the Grimsby fishermen, but in such a business little difficulty is presented. Take, however, the case of a contractor who supplies bricklayers and carpenters, and at once it becomes evident that a satisfactory system of profit sharing is not easy to carry out. But obviously it is for the masters to elaborate such a plan and place it before their workmen for acceptance. Mr. Livesey has been very successful with his gas company, and we should be glad to see him formulate a plan for some other business; the discussion of it might lead to some practical, though we fear but partial, solution of the present difficulty.

The Mond Gas Scheme.

WE have received a pamphlet entitled "A Memorandum on the Mond Gas Scheme," written by Mr. F. N. Keen, of the Middle Temple, and published by Walter King. The pamphlet consists of a summary of the principal provisions of the Mond Gas Co.'s Act, 1901, to which reference has recently been made in these columns, and of some of the matters raised in evidence before the Parliamentary Committees which dealt with the Bill. The pamphlet appears to have been impartially compiled, for the points against, as well as those in favour of, the scheme are enumerated. The Act itself contains a number of remarkable provisos, which considerably detract from the value of the permission to supply gas in the districts specified, and make it appear as though the promoters of the Bill were willing to accept almost any conditions in order to get the Bill passed, and to remove the opposition offered by the various authorities likely to be affected by the operations of the Company. It is stipulated that the Company shall not supply gas for use in private dwelling-houses, nor permit any consumer to use the gas for illuminating purposes. We consider that the powers conferred by the Mond Gas Act are either too extensive or too limited. A fair trial of the practicability of supplying cheap gas for any and every purpose to which it might be economically applied is not permitted, while permission is given to open public thoroughfares to supply large factories which are probably capable of manufacturing power gas on their own premises at as low a rate as it can be distributed from central stations. On the Continent non-luminous gas is already extensively used for lighting and heating, as well as for power purposes, and the sooner a fair trial is given to low-quality gas in this country the better. We cannot regard the Mond scheme as satisfactory, because the powers granted by the Act are very limited, and because we consider that Mond gas, of which 50 per cent. is incombustible, is of too low a quality to be suitable for general distribution. Water-gas is wholly combustible, and is of double the heating value of Mond gas, and is already being manufactured in this country at a cost of not more than 4d. per 1,000 cubic ft. This gas, either alone or in admixture with coal-gas, is suitable for incandescent lighting as well as for power purposes; and it is suitable for distribution to all classes of consumers, both domestic and industrial, provided that care be taken to prevent leakage.

The Ventilation of Buildings.

THE depth of winter may at first sight appear to be an inappropriate time in which to refer to the question of fresh air. But, as a matter of fact, it is the very time when houses of all kinds most require careful ventilation. Just now that the fresh air cure for various diseases is being carried out vigorously, we should like to have the fresh air prevention of disease more insisted on, for the same agency which can cure can equally prevent. If a sleeping apartment, for example, is properly supplied with fresh air, it will do much to keep the occupants from falling into the doctor's hands, and so having to undergo the fresh air cure—the very antithesis of previous habits. In Swiss winter health resorts, such as St. Moritz and Davos, invalids covered with rugs may be seen sitting out from morning to night—the very persons who often at home have been guarded from every breath of fresh air in their rooms. At the same time it must be admitted that draughts are disagreeable—though probably less harmful than unpleasant. But certainly we should be glad to see more interest shown by house owners and builders in regard to efficient ventilation, and the medical profession can largely assist architects by insisting, in and out of season, on the need for well-ventilated rooms. There is little encouragement to architects to suggest systems of ventilation when the public view their efforts coldly. At one London club, at least, when the autumn cleaning day arrives we are informed that the ventilators in rooms are usually found stuffed up with newspapers to prevent their action.

The late Mr. Onslow Ford.

THE death of Mr. Onslow Ford, at a comparatively early age, is a great loss both in the artistic and social sense. As a man Mr. Ford was a general favourite with those who knew him, both for his amiability and for a certain piquant charm in his manner and conversation. Though born in London, and though he studied mainly in Antwerp and subsequently in Munich, his personality impressed one as neither English, Dutch, nor German, so much as French; he had the vivacity coupled with refinement which characterises the best type of Frenchman, and there was something rather French even in his physique and appearance; certainly he had nothing whatever of the "John Bull" about him. As a sculptor he perhaps just missed being great (great sculptors do not exist in profusion at present); but he was an artist of great versatility, refinement, and inventive power; if he did not impress one deeply, he was always sure of pleasing. His sense of decorative effect in sculpture was very highly developed; this was perhaps the most notable quality in his work; and he may be said to have invented for himself one type of sculptural production—that represented by the small bronze figures on decorative pedestals, under the titles "Dance," "Song," "Applause," &c., in which the figure and pedestal formed one design and could hardly be regarded apart from each other. Of Mr. Ford's more important works the two that have most of breadth and largeness of manner are two portrait figures, that of Gordon riding on a camel, and that of Queen Victoria exhibited at the last Royal Academy—a figure which rather surprised us by an element of grandeur which we had not before associated with his work, and which seemed to promise greater things had he been longer spared to us. A tolerably complete list of his principal works will be found in our Obituary column on another page.

Lord Leighton's House.

IT appears that the Borough of Kensington is about to take over Lord Leighton's house, which his two sisters have already handed over to trustees. Last week it was announced that this transfer had already taken place, but it seems that this information was somewhat premature, though there appears to be no doubt that the transfer will be soon made. It is certainly very desirable that there should be something in the nature of an art gallery in Kensington, which is a district very populous and very diverse in its inhabitants. There are many who would gladly visit an Art Gallery, such as Lord Leighton's house would become, if it was within a short distance of their home; and if once Lord Leighton's house is taken over by the Borough of Kensington, it may possibly form a nucleus for a larger gallery of a public and a local character; the more also that these new municipalities show public spirit in providing places of intellectual recreation, the greater will be their hold on the intelligent population of the district over which they rule. We confess that some of these days we hope that that historic building, Holland House, may become the property of the Borough of Kensington, for the time is coming when it will inevitably cease to be a private dwelling-house.

The Gwalior Gateway.

IT is a good many years since we illustrated and drew attention to the Gwalior Gateway, a very fine piece of decorative stonework carried out by Indian carvers in the hereditary style of their country, and which was erected at the Indian Exhibition at South Kensington. It was a present to the English Government from the late Maharajah of Gwalior. Since that time no one has seen anything more of it; it is said to be lying detached and in pieces in a back room of the museum. Major Keith, formerly the Art Conservator to Central India, who took a great deal of interest in the work, now writes to the *Times* to remind us that the donor's son, the Maharajah Scindia of Gwalior, will be a visitor to this country at the time of the Coronation, and suggests that the gateway should be put up in some conspicuous position, so that he may see his father's gift, and that there may not be the impression that we have slighted it. This appears to be a most proper and timely suggestion. In every possible way we should make the Coronation an opportunity to draw together England and India; and it would surely seem to an Indian prince a very ungracious thing that so costly and beautiful a gift should have been presented to us by one of his family, and that we have not taken the trouble to do anything with it or to place it in public view.

The Church of St. Peter-at-the-Cross in West Cheap.

A FEW days ago an order was made by the Consistory Court of London for amending a faculty which the Court had granted in November, 1896, for adding a portion of St. Peter's Churchyard to the roadway which the then Commissioners of Sewers proposed to widen at the south end of Wood-street, Cheapside. A proviso was inserted, but it seems by some mistake, in the faculty that no building should be erected over two plots of land, immediately behind some shops in Cheapside, which had been the site of the parish engine-house, and of which the user was since granted (in 1898) to the trustees of the London Parochial Charities by the rector in consideration of 250*l.* paid on behalf of the living. The recent order annuls that proviso but the Court leaves to the civil tribunals to pronounce, should occasion arise, whether the Charities' trustees, who claim rights of user over the land behind the four shops of which they are the owners, can legally build upon the plots or devote them to other than ecclesiastical purposes. The shops are in part overshadowed by the large plane tree which, perhaps, suggested to Wordsworth the locality of his Reveries of Poor Susan, and stands in the churchyard of St. Peter's, which has not been rebuilt since the Great Fire. The church was built, says Hatton in his "New View," 1708, by Sir John Shaw, who died in 1503; Thomas Wood, of Wood-street, goldsmith, largely contributed towards the fabric; he also erected the highly ornamented fronts, with their ten gables, of the opposite houses, formerly Goldsmith's-row, in Cheapside. In the high road in front of the south-east corner of the church stood until 1643 the Queen Eleanor Cross—by some ascribed to Michael of Canterbury, by Hudson Turner to Henry of Huntingdon. It is said that the terms of the leases of the four houses adjoining the churchyard forbid the destruction of the plane tree or the building of an additional story that might injure it. All human remains have been lately removed from the vaults beneath the land in question, and the entrance to the vaults is closed.

Liverpool Cathedral.

FROM a letter signed "Liverpoliensis," which appeared a few days ago in the Liverpool *Daily Post*, it appears that with some at least of the Liverpool people the only object is to get as cheap a cathedral as possible, finished in as short a time as possible. This correspondent urges that the cost would be greatly increased by having a stone-vaulted cathedral, which is quite unnecessary; and that if they are content to have one with a timber roof "we could have an equally fine building for 250,000*l.*" (the question of monumental character in the architecture apparently counting for nothing), "and then we may hope this day five years hence to be worshipping in our new cathedral, and to see the whole building, spire and all" (a spire seems to be a *sine quâ non*), "completed during the episcopate of our present loved and honoured leader." At this rate, why not have a large corrugated iron church at once? That would be still cheaper and quicker, as these seem to be the main objects in the eyes of "Liverpoliensis."

EUSTON-ROAD FIRE BRIGADE STATION.—The names of the builders on this work, mentioned in our issue for the 21st ult., should have been given as "Messrs. Stimpson & Co.," not "Simpson & Co."

KNIGHTSBRIDGE, KENSINGTON, SOUTH KENSINGTON, AND EARL'S COURT:

1801-1900.

FOR a faithful, and indeed in other respects the best, presentment of Knightsbridge and Kensington in the earlier years of the nineteenth century, one should turn to a survey of the Kensington and Hyde Park Turnpike Trust, executed by Joseph Salway, surveyor to the Trust, and deposited in 1872 in the British Museum. Salway's drawings, 45 in. by 24½ in., and to a scale of 1 in. to 20 ft., are all dated at Sloane-street, June, 1811. He gives a general plan and detailed plans of both sides of the main roads under the trustees' control from the toll-gate at Hyde Park Corner to (1) the western boundary of Kensington parish at Counter's, or rather Caunter's (now Addison-road railway) Bridge; (2) Fulham Fields and Putney Bridge, through Brompton and Walham Green; and (3) Stone's End, Buckingham-gate, through Pimlico, to Battersea Bridge. He gives the elevations of every house, wall, pump, oil-lamp post, gate, &c.; every hedge, tree, and ditch, along the northern side of each road. The whole is properly coloured and set out with remarkable minuteness, altitudes are copiously indicated, and the construction of each road, pathway, and drain is fully described. The fifteen sheets, with plans, of vol. i. depict the high road, 2 m. 4 f. 80 y. long, through Knightsbridge and Kensington to the boundary of Fulham parish, where it emerges into open country, and, crossing the brook at 9 ft. above high-water level, reaches the end of the route at the Hand and Flower by the corner of Portland-place, opposite Lee & Kennedy's nursery in the ancient Vineyard—the site of Olympia—at Caunter's Bridge.

KNIGHTSBRIDGE.—Going westwards from the turnpike at Hyde Park Corner, we pass on our left hand St. George's-place, of which No. 12 was built in 1837 for Thomas Goding, of the brewery at Albert Gate, the architect being Francis Edwards (1784-1857), and the Alexandra Hotel, behind which is Old Barrack-yard, the site of the Grenadier Guards' barracks and stables as plotted in Lockie's map, second edition, 1816, and vacated in 1836. Opposite the Conduit Head (still within the Hyde Park railings) was built (1842) the St. George's Gallery for Nathan Dunn's Chinese Exhibition, and afterwards occupied by Gordon Cumming's African Exhibition, Bartlett's and Beverley's Diorama of the Holy Land, and the Turkish Exhibition. St. Paul's Church (T. Cundy, 1840-3) was lengthened and the chancel was remodelled (1870-1) by R. J. Withers; Sir Arthur Blomfield (*obiit* 1899) added the St. Luke's Chapel; Messrs. Bodley & Garner enlarged the chancel and designed the east window; the five lights of the latter were filled with Radix Jesse glass by Messrs. Lavers & Westlake. In Park-side, on the right hand, is Holy Trinity Church (1860-1) [R. Brandon and H. M. Eyton, April 21, 1860*], on the site of a district chapel rebuilt in 1699 and again in 1789, that had been the hospital chapel of a lazar-house (1595), appertaining to the collegiate church of St. Peter, Westminster, which Laud converted into a chapel-of-ease for the parish of St. Martin-in-the-Fields, within the limits of which it then stood. The Ecclesiastical Commissioners ratified a scheme last April for uniting the benefice with that of All Saints, in Ennismore-gardens, and applying the proceeds of a sale of the site and materials of Holy Trinity Church towards a new church and parsonage-house (Mr. Bodley, A.R.A.) in Prince Consort-road—see the "Gore Estate." The church stood between two public-houses. The tavern and three houses on the west side have lately given way to the new ball and reception rooms of the house which the French Embassy bought four years ago for 25,000*l.*, the Crown, we understand, retaining the ground-rent. That house is one of the two once known as "Malta" and "Gibraltar" because they could not be taken, built by T. Cubitt, who sold the eastern house to George Hudson, the "Railway King," for 15,000*l.* After Hudson's death in 1871, the house passed to the Great Northern Railway Co., who let it furnished to the French Embassy. The house on the west side of the gates, having been untenanted during many years, was sub-divided into three, but has lately been returned to its original state. The next house was built in 1853 for Captain Thomas Leyland, on the site of Dunn's Chinese Exhibition (1851). The gates and three houses occupy the sites of the Fox and Bull, originally the Fox, tavern cited by Addison, and the Cannon Brewery, built before 1836 (Francis Edwards) for Thomas Goding, the brewer, mentioned above. The Fox and Bull, for which Sir Joshua Reynolds, reputedly, painted the sign that was blown down in 1807, since served as the Royal Humane Society's receiving-house. The bridge that carried the road across the West Bourne, also known as the Bayswater rivulet, flowing from the Serpentine, was removed in 1841. On the gate-piers (1845) are the two stags, modelled after a pair of prints by Bartolozzi, taken thither from the Ranger's Lodge in Green Park (Robert Adam, 1768), pulled down in 1820. The site of the gate and of the two later lofty houses was bought by the Government for 21,000*l.* from the Dean and Chapter of Westminster and the proprietors of the Cannon Brewery. The road into Hyde Park was opened on April 6, 1842. Next, west, is the block erected originally for Hyde Park Court, Ltd., by J. W. Hobbs & Co. (1887-9) from plans and designs of the late firm of Archer & Green, and completed, after the dissolution of that firm in 1889, by Mr. Thomas Archer and Mr. Francis Hooper. The site covers about 28,400 ft. superficial; the west wing was built for the Hyde Park Club. The island at the junction of Brompton and Knightsbridge High roads is all that encroachments have left of the old village green. A railed-in portion on the north side was, it is said, the lazar-house burial-ground; the watch-house and pound stood at the east end until 1834; a block of cottages formed "Middle-row"; on the north side (west) was the old Marquis of Granby. In 1865 Edmund Tattersall (*obiit* 1898) and his two sons migrated from "the Corner" at Grosvenor-place to their new premises, covering two acres, at the west side of the Green, built by Messrs. Holland & Hannen after Mr. Charles Freeman's plans and designs. The Duke of Wellington's Riding-school with the stables, coach-house, &c. (1857, P. Hardwick), No. 42, Albert Gate, covering an area of 16,900 square ft., were sold at auction for 60,000*l.* in March, 1891, and on the site has been erected Wellington Court (Mr. M. E. Collins). Concurrently with the rebuilding of the Household Cavalry barracks [Thos. H. Wyatt, February 2, 1878] the late Metropolitan Board of Works paid 5,000*l.* for 7,623 square feet for a widening of the main road from 50 ft. to from 68 ft. to 70 ft. for about 1,100 ft. on its north side along the new barracks. The work was opened in September, 1880. Opposite, at Rutland Gate, is the site of Stratheden House and grounds, extending over about 4,400 square yards, which was withdrawn from sale by auction at 89,000*l.* in June, 1900. It had been the home of Lord Campbell, who died there in June, 1861. The site is taken for a block of flats (Mr. Delissa Joseph).

KENSINGTON.—Just beyond the cavalry barracks, and abutting against the wall that until 1825 enclosed Hyde Park, at a point due south of the powder-magazine in the park, stood the Half Way House, pulled down in 1848. Alford House was designed by Sir M. Digby Wyatt (1820-1877); two houses in Lowther Gardens, Exhibition-road, are by Mr. J. J. Stevenson [February 9, 1895, a porch]. Gore House, the home of William Wilberforce (*obiit* 1833), and afterwards, until 1849, of Marguerite, Countess of Blessington and Count Alfred D'Orsay, was tenanted in 1851 by Alexis Soyer as the Symposium restaurant and concert gardens. After the Gore estate (see *post*) had been chosen as the site of a new National Gallery, with schools of art and science, a beginning was made with an exhibition in Gore House of cabinet-work and studies from the art schools, but in the end the site of the house and grounds was cleared in 1857, and Albert Hall-mansions (Mr. R. Norman Shaw, R.A.) and the Royal Albert Hall occupy their place. Mr. Shaw was the architect also of Lowther Lodge and of Nos. 170 and 185, Queen's-gate, formerly Prince Albert's-road [June 26 and December 4, 1897: "Sketches of London Street Architecture," xv. and xxi.]. They are two notable houses, architectural expression in the latter being obtained almost entirely by the treatment and grouping of the windows. No. 170, designed in pure William III.-Queen Anne style, was built by Mr. Downs, of Walworth, in 1888-9, for Mr. F. A. White, who courteously informed the writer of this article that he obtained the

* Dates in *square* brackets relate to illustrations in the *Builder*.

site, 43 ft. by 53 ft., from the Commissioners of the 1851 Exhibition; the marble floor of the entrance-hall came from Squerrye's Court, Westerham, associated with General Wolfe's memory; the boudoir and drawing-room mantelpieces from an eighteenth-century house —No. 25 (formerly 17), Millbank-street, Westminster; that Mr. Shaw designed the drawing-room ceiling after those at Ashburnham House, Dean's-yard, and the (new) wood-carving (executed by Mr. Wickes, of Wells); Mr. Crittall, of North-street, Manchester-square, executed the ironwork, and that nearly all the old woodwork and marble plaques and inlays are relics from Halstead-place, Kent, and houses in the City of London. At the corner, east, of Palace Gate is the stone-built gabled Thorney House, standing in grounds having an area of nearly 40,000 sq. ft., and built about thirty years ago by Messrs. Cubitt & Co. for the Duke of Bedford. Certain covenants entered into by the Duke in respect of that and an adjoining property which he purchased were the subject of a suit, Rogers *v.* Hosegood, reported in our columns of November 18, 1899. In 1873, Sir John Millais, P.R.A., bought from Messrs. Cubitt & Co. some adjacent land in Palace Gate, on which he built a house, No. 2, after the plans and designs of P. C. Hardwick, *obiit* January 27, 1892 [June 10, 1876]. Palace Gate House has been refronted and remodelled by Mr. C. J. H. Cooper [September 17, 1898]; Kensington Gate was erected in 1849 on the site of the pest-house built in 1665 by the Earl of Warwick, since used for the parochial poor, and demolished in 1848. Opposite the Gate, at No. 7, Canning-place, lived, in 1856, Alfred Stevens, who there made his first designs and clay model for the Wellington monument in St. Paul's Cathedral. Galway delineates the barracks which, with the alcove or summer-house, stood within Kensington Gardens at the end of the Broad-walk; the latter, attributed to Wren, has been removed from the Dial-walk to the hollow at Marlborough (formerly Bush Hill) Gate; at Hogmire-lane (Palace Gate) is the toll-bar; the houses between Palace Gate and De Vere Gardens, where stood Noel House and Malcolm's nursery, mark the site of Batty's open-air hippodrome [Taylor, May 10, 1851].

Kensington Palace and the Gardens.—In May, 1899, by the desire of Queen Victoria, the State apartments in the south and east portions, overlooking the private gardens, were opened to the public. Princess Louise's marble statue of the Queen (1893) is opposite the room in which Queen Victoria was born. At the same time the Queen Anne's Banqueting-house or Concert-room (latterly the Orangery), attributed to Wren, and which had been shamefully misused as the gardeners' store and tool house, was cleaned and repaired [Mr. G. Weald's measured drawings, January 12, 1895]. The bridge crossing the Serpentine (1825-6) is by John and George Rennie, and cost about 36,000*l.*; the fountains, with figures, and the engine-house at the northern end of the Serpentine were designed by John Thomas (*obiit* 1862); the statue of Edward Jenner (*obiit* 1823), by W. C. Marshall (*obiit* June 17, 1894), had been first set up in Trafalgar-square in 1858. During some years past the gardens have been subjected to many alterations that spoil their natural beauty, amongst them being the wanton destruction of the fine old yew hedge along the west side of the path running northwards from the two brick piers by the Orangery, which was cut down and replaced with an iron railing at the making in December, 1887, of the entrance in the north-western corner, and the addition to the gardens, by Queen Victoria's desire, of the strip of ground along the Bayswater-road. The London Government Act, 1899, constituted the parish of Kensington into a borough—it is now a Royal borough—and the Palace with the portion, to the south, of the Gardens have been transferred from the parish of St. Margaret, Westminster. The population, in 1901, was 176,623.

The Queen appointed Sir G. G. Scott to be architect of the Prince Albert Memorial [May 23, 1863, with plan; and November 22, 1873, details], built by John Kelk, who contracted for a sum not to exceed 85,508*l.*, and completed in April, 1871, at a total expenditure of 132,000*l.* Mr. G. G. Scott assisted his father in making the original drawings submitted to the Committee, and Mr. J. Oldrid Scott and Mr. Coad helped in preparing the working drawings. The central portion rests upon a concrete bed 60 ft. square, and with a minimum depth of

(Campden House, Kensington.)

(From an engraving in *The Mirror*, 1837.)

17 ft. The seated figure of the Prince is by Foley; the marble groups of Europe, Asia, Africa, and America are by Macdowell, Foley, W. Theed, and John Bell respectively; those of Commerce, Manufactures, Agriculture, and Engineering by Thornycroft, H. Weekes, W. C. Marshall, and John Lawlor respectively; the bronze figures of Astronomy, Geology, Chemistry, and Geometry on the outer faces of the great pillars, and those of Rhetoric, Philosophy, Medicine, and Physiology in the niches over the capitals are by J. Birnie Philip and Mr. H. H. Armstead, who also sculptured the marble figures in relief around the podium—the architects (including Wren, Pugin, Barry, and C. P. Cockerell) and sculptors being by the former, the painters, poets, and musicians by the latter. The gilded bronze statues in the spire, which with the cross rises to 170 ft., are by James Redfern; the tabernacle work and gable crests, with all the artistic metal-work, are by F. A. Skidmore; the architectural carving is by Mr. Brindley, and Messrs. Clayton and Bell made the cartoons for the mosaics in the tympana and spandrels, and the vaulting of the canopy, executed by Signor Salviati.

In Kensington Palace-gardens, laid out over the Queen's-road by Sir James Pennethorne for the Commissioners of Woods and Forests in pursuance of the Act 5 Vict. c. 1., are Nos. 13, Harrington House, 1852, for the Earl of Harrington, by C. J. Richardson; 18-9, by Sir Charles Barry; and 11, with the adjoining house, 1852-4, by S. Smirke the elder. On the Green (or Moor), nearly opposite No. 2, the house that Thackeray built for himself in 1861-2, remained until 1871 the conduit house, having a vaulted roof, which Henry VIII. built, *circa* 1536, for supplying Chelsea with water; there are two views (1857) in the Archer Collection. Returning into the High-street, we see that the two piers at the entrance of the private road to the Palace have been renewed and fitted with gates (1900), and that the site of the King's Arms, burnt down on June 10, 1857, and well remembered by readers of "Esmond," with its yard, has been taken for the Royal Palace Hotel, 1893-4 (Mr. Basil Champneys, Messrs. Perry & Co., contractors), to which the ballroom suite and banqueting-hall were added (1896-7) by Messrs. Bywaters & Son, who contracted for 21,343*l.*, after Messrs. Henry S. Legg & Son's plans and designs [November 13, 1897]. For the site, about 7½ acres, of Kensington House on the south side of the street, which side has since been widened by the (old) Vestry and the late Metropolitan Board of Works, were demolished in 1872-3, the Warren or Rookery, Colby House (site of the London and County Bank, opposite Kensington Palace-gardens), erected in 1720 for Sir John Colby, and old Kensington House—the home of Louise de Querouaille, Duchess of Portsmouth, of James Elphinston the schoolmaster and translator of Martial and friend of Dr. Johnson, of the Jesuit Pères de la Foi and M. le Prince de Broglie's school, of the Cosways, and in 1819-21 of Mrs. Inchbald. Kensington House was begun in 1873, after Mr. James Knowles's designs and plans, for Baron Albert Grant (*obiit* 1899), who, however, did not occupy it, nor indeed was the house completed, after nearly 275,000*l.* had been expended. It was ultimately sold at auction in lots for a total sum of 9,915*l.* in June and September, 1882. The white marble staircase that reached up to the second floor and had cost 11,000*l.* was secured for 1,000*l.* by Madame Tussaud & Sons, and part of it, with the caryatides of heroic size is now in their exhibition, Marylebone-road; the gilded cast-iron railing, fronting the main road, that cost 3,500*l.* was bought for 300 guineas by the Sandown Park Race Committee. The ground was speedily covered with the houses and flats, seventy-five in all, of Kensington-court designed for Mr. J. T. Carr by Messrs. Perry & Reed (flats), Mr. J. J. Stevenson, Mr. T. Graham Jackson, R.A., [No. 2, June 27, 1885], Mr. W. W. Gwyther (No. 61), Mr. R. J. Worley (Kensington House), and other architects; whilst on the site of Colby House stands the London and County branch bank (from No. 67) built in 1885 by Messrs. T. Rider & Son, after Mr. Alfred Williams's designs [September 11, 1886]. An Act of 1896 provided for an improvement of the James-street area, with the widening of Charles-street and the western end of St. Alban's-road, and the making of two new roads out of Kensington-square into St. Alban's-road and Kensington-court. On the south side of the square is the Convent Chapel of the Assumption, by Goldie & Child [May 31, 1873]. The old Grammar School houses, Nos. 25-9, on the west side, opened January 24, 1831, have lately been taken (1900) by a firm of linen-drapers.

In 1683 the south aisle, and in 1695 the north aisle and chancel, of the parish church of St. Mary Abbot were rebuilt; in 1772 the stone tower was pulled down. Having been repaired in 1811 at a cost of 5,000*l.*, it is replaced by the church begun in 1869 by Messrs. Dove Bros., after Sir G. G. Scott's plans and designs [January 1, 1870], for 1,606 seats; the organ front, 1893, is by his son, Mr. J. Oldrid Scott, the carving by Messrs. Farmer & Brindley, and the glass in the clearstory windows by Messrs. Clayton & Bell. A widening of the south side of the High-street, for a length of 460 ft. between Young-street and the Metropolitan Railway station, and the new thoroughfare (Hall-street) from Young-street to King-street were completed in October, 1869, for the late Metropolitan Board of Works by Messrs. Nowell & Robson, at a net cost of 126,434*l.*, the width being increased to a minimum of 45 ft. and a maximum of about 65 ft. from a minimum of 20 ft. and a maximum of about 45 ft. The site of the Kensington Charity Schools, 1713, by Sir John Vanbrugh, enlarged in 1817-8, and latterly a savings-bank, was bought for 7,100*l.*, with some adjoining property in Church-court, for the Town Hall (opened by the late Duchess of Teck on November 7, 1880), built by Messrs. Brand & Co., who contracted for 30,549*l.*, from the designs of Robert Walker, *obiit* 1896; in 1891 were added administrative departments, a coroner's court, &c., by Messrs. Leslie & Co. (contract, 13,747*l.*), after plans prepared by Mr. W. Weaver, Surveyor to the Vestry, and Mr. W. G. Hunt, joint architects. The schools have been rebuilt at the west end of the parish church, where may be seen the quaint original figures of a boy and girl. The Vestry Hall [June 12, 1852], in the Jacobean style, by Broadbridge, replaced the vestry-room which adjoined the (old) parish church.

By the east corner of Wright's-lane a large drapery shop has replaced the house inhabited by Cobbett, at the back of which, on the east side of the lane, stood Scarsdale

House. At the end of the lane was Carmarthen House; further southwards, in Marloes-road, was built the new workhouse and infirmary. On the west side of Wright's-lane are blocks of flats begun three years ago for the Mansions Estate Company by Messrs. Metcalf & Greig, who designed also similar blocks in Ivernagardens; Cheniston-gardens stand on the site of Abingdon House. Eleven of the sixteen houses of The Terrace on the south side of the high road, next west from Wright's-lane, were sold in May, 1892, for the erection of residential flats. Of those houses, which had large gardens, No. 7, a home of the third Earl of Shaftesbury, author of "Characteristicks," but since rebuilt, had been occupied in 1824-5 by Sir David Wilkie; at No. 1 lived Sir Henry Cole, and at No. 6 John Leech. On May 14, 1868, was laid the foundation-stone of the Pro-Cathedral of St. Mary [June 11, 1868], built by Simpson after the designs of Goldie & Child: George Goldie *obiit* March 1, 1887. The style is that of the early thirteenth century, with geometrical tracery in the apse and principal façade, the nave having a continuous barrel vault of timber, with a moulded king-post and tie-beam to each principal. The church was dedicated to "Our Lady of Victories" on May 1 last, the debt of nearly 9,000*l.* having been discharged during the past six years.

By the death, at Naples in 1859 of Henry, fourth Baron Holland, *s.p.*, that title became extinct. His widow, Mary Augusta, disposed of the house and estate—about 80 acres—to her kinsman, Henry, fifth Earl of Ilchester, who entered into residence there shortly after Lady Holland's death on September 23, 1889. Some alterations of the interior, with external repairs, were effected for Lord Ilchester by Colonel Edis in 1890-1.* Meanwhile, a portion of the park on the north side had been sold for building purposes (Holland-park), and on the south-west have been built Melbury-road (Nightingale-lane) and Holland Park-road. In Melbury-road are two semi-detached houses by Mr. Halsey Ricardo [July 7, 1894]; W. Burges designed his own house, the sculpture being by Mr. Nichols (1878), as did also Edmund Street; No. 14 is by Mr. J. J. Stevenson. Mr. Basil Champneys designed his own residence, and one for Mr. Holiday. No. 8 is by Mr. R. Norman Shaw, and Little Holland House, No. 6, was rebuilt in 1885 for Mr. G. F. Watts, R.A. In Holland Park-road, at No. 1, Mr. P. Webb designed the studio and marble corridor [October 2, 1897] for Mr. V. C. Prinsep, R.A.; No. 2, Leighton House, was built thirty years ago for Lord Leighton, P.R.A. (*obiit* January, 1896), and devised by him to his sisters, Mrs. Sutherland Orr and Mrs. Mathews, who generously devoted it, together with its contents (to which several of his friends have contributed), to the public.† Professor Aitchison designed the picture gallery [November 9, 1895] and the studio, the frieze of birds in mosaic upon a gold ground in the Arab Hall is by Mr. Walter Crane. Leonard-place, Earl's-terrace, and Edwardes-square were built by M. Changier, a Frenchman who, so runs the story, intended that the square, with its small houses and large garden, should be occupied by officers of Napoleon's army when the then threatened invasion of England had succeeded.

SOUTH KENSINGTON.

The Gore and other Estates.—In their second Report, dated November 11, 1852, the Commissioners for the Exhibition of 1851 estimated their surplus funds at about 170,000*l.* Their third Report, dated April 12, 1856, sets forth that their receipts then amounted to a total of 349,338*l.* 5s. 5d., arising from 186,436*l.* 18s. 6d.—surplus, 157,500*l.*—voted by Parliament in the Sessions of 1852-3 and 1854-5, and 5,401*l.* 6s. 11d.—rents and miscellaneous receipts; their expenditure had amounted to 247,595*l.* 8s. 7d. for the purchase of lands, tenants' compensation, road-making, and other items. The two Parliamentary votes amounted to 177,500*l.*, but 20,000*l.* of that total had not then been paid. In 1852 they bought for 60,000*l.* the Gore estate, 21½ acres, having a frontage of 600 ft. to the Kensington-road and extending southwards obliquely, about 1,250 ft., to a point on the east side of the present Exhibition-road. They also purchased from the Baron de Villars's executors for 153,500*l.* an irregular area of 48 acres adjoining the west and south sides of the Gore estate and crossing the later Cromwell-road. To those purchases they added the Smith's Charity estate, at the south-western corner of the Gore estate, and 17 acres of Lord Harrington's estate. Of the last-named property the greater part of the portion so bought included Brompton Park, lying on the east side of Exhibition-road and on the north side of Brompton-road—the site eventually of the South Kensington Museum. Nearly the whole of the combined properties consisted of open ground, nursery gardens, and so on, traversed in a south-easterly direction by two lanes. The one lane ran from Hogmire-lane (at the present junction of Gloucester-road and Victoria-grove), past one of Malcolm's nurseries to Hale, otherwise Cromwell, House (see "Notabilia"), Stanhope nursery, and Methwold's Almshouses which stood where Harrington-road meets Harrington-gardens; the other, Gore-lane, ran from Kensington-gore at a point in Kensington-gore about 50 yds. east from the present Queen's-gate to Grove Lodge in Old Brompton-road—where is now Thurloe-place—opposite Harrison & Bristow's nursery (Thurloe-square and Alfred-place). Between the two lanes stood the Kensington Workhouse (Kensington-gate, south side): see a scarce map of London, 1836, beautifully drawn by W. B. Clarke, architect. Most of the houses on the purchased lands lay along the northern bend of Gore-lane. The Commissioners acquired the fee-simple of them, including the Hoop and Toy tea-gardens, from Lord Kensington, and obtained an Act, July 3, 1854, for laying out the site. On the south of a nursery extending northwards to Kensington high road (see Rocque's map), and famed for its fruit trees, was Brompton Park, that had been brought in marriage, 1779, to Charles, third Earl of Harrington, by Jane, daughter and co-heir of Sir John Fleming, Bart. The manor-house became an official residence attached to the Museum. Sir William Cubitt laid out Exhibition-road, Prince Albert's-road (renamed Queen's-gate), part of Cromwell-road, and Gore-road (renamed Queen's Gate-terrace), 1¾ mile long in the aggregate, and completed in March, 1856, by William Jackson, contractor, at a cost of 17,980*l.*

Science and Art Department and Victoria and Albert Museum.—The Commissioners at first intended to appropriate the Harrington estate as the site of a Museum of Manufactures, and the Gore House estate for a new National Gallery. A separate Commission had recommended (in August, 1851) the latter site for that purpose by reason of the dryness of the yellow gravel soil and because "those large open spaces afford a security against the inconveniences to which the National Gallery is exposed, and are the only grounds which remain safe for future years amidst the growth of the metropolis." But the two schemes were modified in conjunction with a re-constitution of the Science and Art Department, which had its origin in the School of Design, established in 1836-7 at Somerset House under the Board of Trade. In 1841 the Government resolved to contribute towards the formation and maintenance of Schools of Design in our chief centres of manufacturing industries. An inquiry conducted eight years afterwards showed that the schools were not working satisfactorily. The Treasury gave 5,000*l.* towards the establishment of a Museum of Art, which was opened at Marlborough House, Pall Mall, in 1852, the exhibits consisting mainly of purchases from the Great Exhibition and the casts removed from Somerset House. At that time there were forty-two self-supporting schools in the provinces, and twenty subsidised by the State, with Sir Henry Cole, K.C.B. (*obiit* 1882), as Superintendent of the Department of Practical Art, and R. Redgrave, R.A., as Art Adviser. A Treasury minute of 1853 formally constituted a Department of Science and Art, which an Order in Council of February 25, 1856, transferred to the then Committee of Privy Council on Education. In the following year, Cole having meanwhile been appointed Inspector-General with Dr. (since Lord) Playfair as Secretary of the united Departments, the Department migrated to the new buildings at South Kensington built by C. D. Young & Co., of Edinburgh and London, under Sir William Cubitt's superintendence, and opened by Queen Victoria on June 22, 1857. The contractors' general specification (dated June 13, 1855) was for a structure mainly of corrugated iron having three segmented roofs, 42 ft. span, with malleable iron trusses 7 ft. asunder, and skylight 12 ft. wide along the entire ridge of each roof, 266 ft. by 126 ft. and 30 ft. high to the eaves, affording (with the galleries) an exhibition area of 6,400 yards superficial, to cost about 9,800*l.*, without an architectural front of cast-iron (from 1,000*l.* to 1,400*l.* more). The buildings (site of the new South Court) were pulled down ten years afterwards and re-erected for the Bethnal-green Museum. Sir Henry Cole resigned in 1873. The mechanical models, engines, and other interesting exhibits of old patented inventions, originally gathered by Professor Bennet Woodcroft, F.R.S. (*obiit* February 7, 1879) when Clerk to the Commissioners of Patents, were, together with a similar collection stored in Kensington Palace, deposited in an iron annexe of the Museum; the Patents, Designs, and Trade Marks Act, 1883, transferred them to the Science and Art Department; on September 2, 1897, the "Brompton boilers" were sold at auction. See, in the Commissioners' Report, 1856, a coloured plan of the estates as bought and laid out; and coloured drawings to scale of the building of 1855-7. Captain Francis Fowke, R.E. (1823-65), architect and engineer to the Science and Art Department, made the plans and designs for the extension buildings of the Museum, which comprised the Architectural and other courts, the Sculpture and Oriental galleries, and the Turner (water-colours), Vernon, and Sheepshanks picture galleries—for the latter R. Redgrave devised a successful mode of top-lighting, and the cost of the picture galleries, with fireproof floors, amounted to, it is said, scarcely 4d. per cubic foot. In August, 1891, Mr. Aston Webb's designs [August 15, 1891, perspective view of exterior, and interior of central hall] were selected in competition, Mr. A. Waterhouse having acted as professional adviser, for the completion, at an estimated cost of about 420,000*l.*, of what will henceforth be called the Victoria and Albert Museum, whereof Queen Victoria laid the foundation-stone on May 17, 1899. In the interval some changes had been made in the accepted design and plan which, as modified, we described on May 20, 1899, and illustrated on May 27, 1899 (the Cromwell-road front and ground-floor plan); the new works have been begun by Messrs. Leslie Bros., contractors. We illustrated the competitive designs of the late William Young, Mr. W. Emerson, and Sir T. N. Deane & Sons on August 22, August 29, and September 12 and 19, 1891, respectively. Our number of May 20, 1899, contains a block-plan of the Museum, School of Art, Natural History Museum, present College of Science, Royal College of Science, Science Museum Galleries, Imperial Institute, Royal College of Music, and City and Guilds of London Technical Institute, which now occupy the space acquired in 1852-3 by the Exhibition Commissioners.

The Natural History Museum.—The insistent efforts of the late Professor Owen, who in 1856 had been appointed the first Superintendent of the Natural History Department, British Museum, at length moved the Government in 1861 to instruct Mr. Hunt, the Surveyor to the Office of Works, to issue to competing architects copies of a plan based upon Professor Owen's requirements—he said he "wanted, in the first place, room for seventy whales"—for a separate museum on the Cromwell-road site. The Committee of Selection consisted of Lord Elcho (since Lord Wemyss), Tite, David Roberts, Fergusson, and Pennethorne. In May, 1864, they awarded the first premium, 400*l.*, to Captain Fowke [May 28, 1864, perspective view and plan]; the second, 250*l.*, to Professor Kerr [June 25, 1864]; and the third, 100*l.*, to Cuthbert Brodrick. Captain Fowke died in September, 1865, before he had completed the details of his design, which was for a red brick building, with two detached wings, after the French Renaissance style, copiously ornamented with white and red terra cotta. His drawings were committed for their completion to Mr. Alfred Waterhouse, who, however, after two years' labour, found it impossible to adapt them for the practical purposes required. In February, 1868, Mr. Waterhouse was given a free hand, and in April the trustees of the British Museum adopted his initial plans for a building after the refined Romanesque style of the eleventh century. His designs were

* The central block and turrets, 1607, are ascribed to John Thorpe: Lord Holland (beheaded March 9, 1649) added the wings and arcades. The piers of the east gate, carved by N. Stone, are by Inigo Jones, 1629.

† On November 26 last the Royal Borough Council resolved to accept a gift of the house and grounds from the Leighton House Executive Committee, and to maintain them as a memorial and a museum o art.

perfected in 1871, the Act for building on a site of seven acres—being that of Captain Fowke's International Exhibition, 1862, buildings—was passed in 1872, the works were begun in 1873, and on Easter Monday, 1881, the Museum was opened to the public. We believe that Mr. Waterhouse's plans comprise two east and west wings, not yet erected. In 1897 the west wing site was taken for a temporary building for the cetacea collection.

Royal Albert Hall.—General Scott based his plans and designs upon those originally made by his deceased brother-officer Captain Fowke, J. W. Grover, C.E., being the constructive engineer and Messrs. Lucas Bros. the contractors. The height of the Hall to the apex of the roof is 165 ft.; the major and minor axes are 219 ft. and 157 ft. To meet the cost—about 200,000*l.*—the seats were sold for a term of 999 years at prices ranging from 1,000*l.* for a grand-tier box to 100*l.* for a stall. The organ is by Henry Willis, and the sixteen cartoons for the terra-cotta mosaic frieze by Sir E. J. Poynter, P.R.A., Mr. H. H. Armstead, R.A., Pickersgill, R.A., S. Marks, R.A., Horsley, R.A., Armitage, R.A., and Yeames, R.A. Queen Victoria laid the foundation-stone on May 20, 1867, and opened the Hall on March 29, 1871 [December 10 and (plan) 31, 1870].

The Horticultural Society's Gardens and the Exhibitions of 1862, 1871-4, and 1883-6.—In 1859 the Royal Horticultural Society (founded in 1804 at Kensington) rented from the Commissioners some twenty acres of the Gore and other estates lying between Exhibition-road and Queen's-gate. Sir Henry Cole, R. Redgrave, and Captain Fowke laid out the gardens, with their terraces to overcome the decline southwards, and fountains. Sydney Smirke (*obiit* 1877) designed the two side arcades in curves to meet the conservatory at the north [July 9, 1859, and December 29, 1860], 240 ft. by 64 ft. and 75 ft. high. In the gardens stood Durham's memorial to Prince Albert. The Society's gardens were completed in readiness for the International Exhibition, 1862, held in the building designed by Captain Fowke (Natural History Museum site). That building consisted of a nave 85 ft. by 1,150 ft. and 100 ft. high, with two end transepts 85 ft. by 692 ft. and 100 ft. high, and an octagon, 160 ft. diameter, at each crossing. Over the two octagons were two vast glazed domes rising to 200 ft. inside, and, with their finials, to 250 ft. outside. The nave roof had a semicircular rib 18 in. deep by 10 in. wide, made in only six pieces, and was after the older or De L'Orme's construction; there was also a rafter, the outline of the rib being not followed by the covering; the span, 85 ft., was 13 ft. more than that of the Crystal Palace. The nave roof and the domes were re-erected at the Alexandra Palace, Muswell Hill, since destroyed by fire. A series of annual exhibitions was held on that site in 1871-4. General Scott, R.E., designed the buildings for 1871 [December 10 and (plan) 31, 1870], Mr. J. W. Grover, C.E., being consulting engineer for the constructive part, and Messrs. Lucas Bros. the contractors.

As the Society's new gardens failed to receive the public support which had been anticipated, the Commissioners felt themselves constrained to exercise their rights of re-entry, and succeeded, on an appeal, after an action at law which arose from the resistance of the debenture-holders. The gardens were then dismantled in preparation for the International Fisheries Exhibition, 1883, held in buildings—afterwards enlarged—that had been erected under, we believe, General Scott's superintendence. Then followed the International Health and Food (1884) and International Inventions and Music (1885) Exhibitions; the Indian and Colonial Exhibition, the last and most important one, was opened by Queen Victoria, in the Royal Albert Hall, on May 4, 1886, and realised a surplus of more than 35,000*l.* In 1875 the India Museum had been removed into the gallery along the east side; a suite of rooms of the Exhibition of 1874 was allotted to the National Portrait Gallery collection which had been established in Great George-street, Westminster, in 1859. Whilst the exhibitions did not prove financially successful in the end, the garden fêtes and concerts provided an unwonted open-air entertainment. In 1884 a novel attraction consisted of a set of models to scale illustrative of London in the olden days, erected at a cost of 13,800*l.*, from the drawings and under the supervision of Mr. George H. Birch, late honorary secretary to the London and Middlesex Archæological Society. Mr. Birch arranged twenty-four buildings, on the lines of a street entered through Bishop's Gate in the City wall, with a typical church tower at the turning of the street into "Elbow-lane." He made many of the drawings from originals in the Gwilt, Gardner, and other private collections not generally known to the public, and was thereby enabled to give an uncommon and highly-interesting presentment of domestic architecture in by-gone London. The sale in January, 1887, of the materials, comprising upwards of 823 lots, of all the buildings, together with the old London street, of the four exhibitions was followed on April 9, 1889, by the sale of the arcades, conservatory, and all out-door effects in the gardens; the ground was then gradually plotted out for new roads and the erection of various public institutions, in accordance with the terms of the Commissioners' charter, which empowered them "to increase the means of industrial education, and extend the influence of science and art upon productive industry."

The Imperial Institute.—On July 4, 1887, Queen Victoria laid the first stone of the buildings planned and designed by Mr. T. E. Collcutt, and opened in May, 1893. On July 2, 1888, was executed the lease for the conveyance of the site from the Commissioners. The foundations having been completed in May, 1888, at a cost of 6,000*l.*, tenders from Messrs. John Mowlem & Co. were accepted, in July, 1888, for the making of Imperial Institute-road (5,825*l.*) and for the main buildings—the towers excepted—(142,800*l.*, from a list of fifteen competing contractors). The same firm's accepted tender for the central and eastern and western towers amounted to 18,797*l.* [July 2, 1887, large view of Mr. Collcutt's competitive design; July 9, 1887, plans of the ground and principal floors, with details of façade; January 5, 1889, large perspective view; and June 18, 1892, central tower]. In the autumn of 1892 an Australian lady presented the "Alexandra" peal of ten bells, weighing more than eight tons, cast by Messrs. John Taylor & Co., of Loughborough, and hung by them in the central or "Queen's" tower at a height of 200 ft. above the ground-floor level. In the course of the year 1899 negotiations took place between the Treasury, the Institute, and the University of London. On July 28 of that year was issued a supplementary estimate for 65,000*l.* for the purchase and maintenance of the Institute, accompanied by a Treasury minute affecting the disposal and future use of the buildings. It was arranged—(1) that the lease should be taken over by the Commissioners of Works as representing the Crown; (2) to assign a portion of the buildings, free from rent, for the use of the Institute; (3) to accommodate the University in the eastern and central portions of the main block, including the principal entrance, vestibule, staircase, and the Great Hall; (4) to make structural alterations in view of (2) and (3) respectively; and (5) that in consideration of (1) the Government should pay off an existing mortgage of 40,000*l.* on the building, and also discharge a floating debt of the Institute, not to exceed in all 15,000*l.* The University of London held their first meeting in the Institute on May 8, 1900. On December 21 last the Executive Council resolved to transfer the Institute with all its property to the nation.

Other Public Buildings.—For the City and Guilds of London Technical Institute in Exhibition-road, opened on June 25, 1884. [Mr. Alfred Waterhouse, A.R.A.; January 5, 1884, elevation and ground floor plan], the Commissioners granted in 1881 a 999 years' lease at a peppercorn rent, the money for its erection and maintenance, to the amount of 100,000*l.*, being contributed by the City of London. The public subscribed for the Royal College of Music (a successor of the National Training School for Music) of which Sir George Grove, *obiit* May 28, 1900, was the first director. The National Training School [July 18, 1874] was begun in December, 1873, after plans and designs by Lieutenant H. H. Cole, R.E., and opened on May 17, 1876; the Royal College, incorporated in 1883, was built of red brick and Weldon stone, in free Renaissance style, by Thompson, of Peterborough, from Sir Arthur Blomfield's designs and plans [July 16, 1892], and was opened by the King on May 2, 1894. Sir Francis Cook presented the Alexandra House, Mr. Samson Fox, of Leeds, engineer, subscribed 60,000*l.*, and Sir Hubert Parry presented the organ. A considerable addition has lately been made upon the ground between the College and the Imperial Institute in the shape of the new concert hall, examination hall, and other apartments [July 20, 1901, with plan and section and part elevation of the interior] opened on June 13, 1901, with Sir Hubert Parry as director, and erected by Messrs. G. H. & A. Bywaters after Mr. Sidney R. J. Smith's designs, which had been selected in competition, Mr. Belcher, A.R.A., being the assessor. The Royal School of Art Needlework was first established in 1872 in Sloane-street, and three years afterwards was removed to temporary premises adjoining the Technical Institute. On June 23, 1899, the King laid the foundation-stone of the new buildings [August 12, 1893, and June 24, 1899, front and side elevations and plans] built by Messrs. G. H. & A. Bywaters, of which Mr. Fairfax B. Wade is the architect; the materials are, externally, Portland stone and blue pennant for the lower story, 2-in. Bracknell bricks for the walling of the principal story, and Portland stone for the upper portion, with green slate for roofing. The site is that of the former India Museum on the west side of Exhibition-road. Between the Natural History Museum and Imperial Institute-road stands the new Royal College of Science [May 5, 1900, with three plans] by Mr. Aston Webb, A.R.A., which has a total frontage, 830 ft., equal to that of the Imperial Institute directly opposite, and connects the Science Galleries. With Mr. Collcutt's concurrence, the entrances into the College museum galleries are, in their general character, a repetition of the advanced ends of the Institute, and screens across the road connect the opposite blocks—a happily-conceived treatment.

NOTABILIA.

Knightsbridge.—Buildings on the sites of Nos. 1-7, Lowndes-terrace, and 1-3, Seville-street, for Messrs. Woolland Bros., 1896-9—Mr. H. L. Florence; premises in Seville-street for Messrs. Harvey, Nicholls, & Co., 1898, and on the site of Nos. 19-21, High-road, 1898—Mr. C. W. Stephens; Knightsbridge Market—William Hosking (1800-61); Park-mansions, Knightsbridge Green, with the adjoining Windsor Castle Restaurant and Arcade, 1900-1—Mr. G. D. Martin; Prince's Club, 1850 (from Hans-place), opened May 18, 1889, built by Peto Bros. on the site of Humphrey's Hall—Mr. E. H. Bourchier; flats on the site of No. 1, South-place, 1899—Messrs. Boehmer & Gibbs; Phœnix floorcloth factory, founded in 1754 by Nathan Smith, the first of its kind in London, burned down in 1794, rebuilt, and again in 1824; All Saints' Church, Ennismore-gardens, 1846-9—Lewis Vulliamy (*ob.* 1871), decorated by Owen Jones, and since in sgraffito by Mr. Heywood Sumner; Ennismore-gardens, 1848-50, named after Lord Ennismore, who lived in Kingston House; No. 49, Prince's-gate, the late F. R. Leyland's, main staircase from Northumberland House, Charing Cross, the dining or "Peacock" room, decorated by Mr. J. M. Whistler; the screen between the two salons on the first floor, in brass and walnut wood, by Mr. R. Norman Shaw; the (old) Cavalry Barracks—J. Johnson.

Kensington.—Victoria and Albert Museum: decoration of the Oriental galleries—Owen Jones; two frescoes of the Industrial Arts as applied to Peace and to War—Lord Leighton; decoration of the refreshment-rooms—Sir E. J. Poynter; bust of Captain Fowke—Woolner. Flats behind Royal Albert Hall, 1890—Mr. F. Hemings. Queen's-gate: St. Augustine Church, 1870-6—W. Butterfield; the four clearstory windows in chancel, and the stained glass including the figures of the twelve Apostles in the four great west lancets, 1880-6, by Alexander Gibbs; a block of mansions, 1856—C. J. Richardson; some other houses, 1859-60—John Tarring (*ob.* 1875); Nos. 171-5, flats [January 26, 1901, plan]—Mr. Paul Hoffmann; Nos. 181-2-3, flats, Mr. H. Lovatt, contractor—Mr. Delissa Joseph. Christ Church, Victoria-road, 1850-1—B. Ferrey; enlarged by his son, B. E. Ferrey (*ob.* 1900). Kensington Dispensary, Church-street, 1899—Mr. J. Gordon Stanham. Carmelite Fathers' Church—E. W. Pugin; the Monastery [July 10, 1886]—Goldie, Child, & Goldie. St. Paul's Church, Vicarage-gate [November 30 and December 21, 1889]—Mr. Arthur Baker; Essex Unitarian Chapel, the Mall, 1886, replacing Essex-street Chapel (now Essex Hall), Strand—T. Chatfield Clarke & Son; labourers' dwellings, the Mall—Sir Morton Peto; Bullingham House, Orbell's-buildings [October 22, 1899], where Sir Isaac Newton lived and died, pulled down in 1895 for a block of flats in Pitt-street. Sir James South's observatory, dome 36 ft. diameter, by Brunel, stood behind Observatory-avenue; South died there on October 19, 1867. Campden Hill-court—F. T. Pilkington (*ob.* 1898), completed by his son, Mr. E. C. Pilkington; Campden House (built *circa* 1612 for Baptist Hicks, first Lord Campden), burned on Sunday morning, March 23, 1862, and rebuilt; flats and houses since erected on the garden, 4 a. Sheffield House stood opposite the east wall of the garden of Campden House; the barracks, in Church-street, on site of the King's forcing-grounds; Ken-

sington gravel-pits, at north end of Silver-street. Pitt-street and Duke-street, formerly Took's-lane. The High-street: Drinking fountain—Mr. H. W. Mackinney; Nos. 197-203 and 225-7—Mr. W. L. Eves; No. 27 [July 27, 1901], built in 1897—Banister Fletcher & Sons; premises for John Barker & Co.—A. M. Peebles (*ob.* May 21, 1891), enlarged in 1900-1—Mr. Pilditch; Nos. 99-103—Mr. Josiah Houle (1892); Parochial Mission Hall and Infant Schools, 1894 (Mr. W. Nash, builder)—Mr. T. Phillips Figgis; Public Library opened on November 29, 1889 Flats on sites of Nos. 33-43, Abingdon-villas, Nos. 1 and 2. Shaftesbury-villas, and in Allen-street, 1899-1900—Messrs. Palgrave & Co.; London, City, and Midland Bank, No. 16, Leonard-place, 1899—Mr. W. W. Gwyther; the White Horse, rebuilt as the Holland Arms. St. Barnabas Church, Addison-road—Vulliamy, 1828-30 (west window by O'Connor); St. John the Baptist Church, Holland-road, begun in 1876—James Brooks [May 23, 1885, interior; April 23, 1892, west front; and June 29, 1895, the screen, by Mr. J. E. Taylerson]. Palace Mansions, Addison-road Bridge—Mr. F. Hemings, 1892. National Agricultural Hall, since Olympia, the two halls completed in 1886 after designs by H. E. Coe (*ob.* December 10, 1885), upon whose resignation by reason of ill-health, James Edmeston was appointed architect; Mr. M. am Ende and Mr. A. T. Walmisley, engineers, designed the great iron roof described and illustrated, with details, in the *Builder* of December 31, 1887: see also our illustrations of October 3, 1885, and May 29, 1886; Lucas & Son's general contract amounted to 131,573*l.*; Messrs. Handyside & Co., of Derby, contracted for the ironwork. New Post Office Savings Bank, begun in June, 1899—Mr. Henry Tanner (estimated cost of the buildings for 7,000 clerks, 180,000*l.*; site cost 45,000*l.*); Kindergarten Training College, Talgarth-road, new wing, 1895—Mr. J. S. Quilter; Fitzgeorge-avenue, begun in February, 1899, Mr. H. Lovatt, contractor—Mr. Delissa Joseph (opened by the Lord Mayor and Sheriffs on January 6, 1901). Royal Albert Hall, iron roof—R. M. Ordish. Parish church memorial lych-gate and cloister, 1890. Kensington Gardens: St. Govor's well, walled and stepped by Lord Llanover, 1856; St. Agnes well, at foot of Buck Barn Hill.

South Kensington.—Churches: St. Peter, Onslow-gardens, 1867—C. J. Freake; St. Stephen, Gloucester-road, 1865—Joseph Peacock; St. Cuthbert, Philbeach-gardens, 1884-7, decoration of interior—Mr. Cyril E. Power; tower, porch, vestibule, colonnade, and narthex, Church of the Servite Fathers or Servants of St. Mary, Mr. George Porter's tender, 4,804*l.*, 1893—Mr. Jos. S. Hansom.

Parish Workhouse and Infirmary, Marloes-road: administrative block and ward pavilions, Messrs. W Johnson & Co.'s tender, 35,560*l.*, and Messrs. Stimpson & Co.'s tender, 11,866*l.*; and nurses' home; buildings, machinery, and plant for electrical lighting by Professor Robinson, 1892-1900—Mr. T. W. Aldwinckle; Albert-court—Mr. R. J. Worley; 31, Courtfield-gardens—Sir G. G. Scott, who died there on March 27, 1878; No. 5 and other houses in Collingham-gardens [July 30, 1898], and Nos. 39 (1883) and 43, Harrington-gardens [November 6, 1897]—Messrs. Ernest George & Peto; Sussex-place, residential chambers, 1896—Mr. W. H. Collbran; No. 7, Gloucester-terrace, art studios for Messrs. Elliott & Fry (C. E. Fry & Son) [October 9, 1886]—Mr. W. Flockhart. Hale, or Cromwell, House, pulled down in 1853, on the south side of Cromwell-road, where is now Queensberry-place. Coleherne House (*temp.* Charles I.), at the corner, west, of Richmond-road and Redcliffe-gardens (formerly Walnut Tree-walk). Orford, afterwards Gloucester, Lodge, 6a., pulled down in 1852, the home of Maria, Duchess of Gloucester, her daughter Princess Sophia, and George Canning; on the site of the Florida Tea Gardens, in Gloucester-road, opposite the railway station.

Earl's Court.—Churches: St. Jude, Collingham-road, on the Gunter estate [July 9, 1870]—George and Henry Godwin; St. Matthias, Warwick-road, 1870—Hakewill; St. Philip, Earl's Court-road, 1857—Thomas Johnson. Barkston Gardens, 1886, on site of the house and grounds bought by John Hunter in 1764. The Exhibition grounds, 15 a., bought for 18,000*l.* by the District Railway Co. from Monsignor Capel.

STAINED-GLASS PANELS.—Messrs. Gustav Schulze and Jost send us (through their London agent Mr. Albert Becker) some illustrations and specimens of their ornamental stained-glass panels, apparently mainly intended for domestic work or for office buildings from the prevailing subjects and character. The glass is fixed in double-sided massive metal glazing, which shows excellent and strong workmanship, fitting it for such situations as doors in business buildings, where panels are subject to a good deal of strain from constant swinging of the doors. Of the more important designs we can only judge from the monochrome illustrations in the illustrated catalogue, which does not give the colour. The style of the designs is in the modern German taste, with which we have no sympathy, and which they will find will not be liked by English architects; but of course any style of design can be carried out in the process, as far as general lines are concerned.

LETTER FROM PARIS.

THE work on the Basilica of the Sacré Cœur at Montmartre has already cost 35 millions of francs—1,400,000*l.*—and this sum will probably be doubled by the time the last stone has been fixed. The foundations and the lower portion of the bell-tower are now completed, but the upper portion, which will rise about 55 ft. above the summit of the dome of the church, will take another two years to complete. The decoration of the interior of the monument is rapidly advancing; the chapels of St. Louis, of the Army, and of the Queens of France are already filled with magnificent mosaic panels; the dome has been decorated with four sculptural groups representing the Evangelists. The artists and clergy who have collaborated on the building have been honoured by their busts being placed at a certain height just below the windows of the dome. These are the busts of the sculptors Barrias, Fagel, Michel, and Noel, and the cardinals Langenieux, Richard, and Guibert, the completing architect Rauline, and his collaborator Moreau.

The Municipal Council has terminated its session by passing a vote for a new Metropolitan line, of which M. Berlier is to be the engineer. This line, nearly 6 kilomètres in length, will connect Montmartre with the Mont-Parnasse railway terminus. It is to follow the line of Rue Houdon, Rue Pigalle, Rue Blanche, Place de la Trinité, Rue St. Lazare, the Arcade Pasquier, Rue Boissy d'Anglas, the Place de la Concorde, crossing the Seine below the Pont de la Concorde, and then taking the line of Boulevard St. Germain and Boulevard Raspail, Rue and Place de Rennes, Rue d'Odessa, and Boulevard Edgar Quinet. The line will be very deep beneath the ground, varying from 8 mètres to 38 mètres, with lifts for the public at fifteen stations. Two branches, one from the Gare St. Lazare to the Porte St. Ouen, the other from the Gare Mont Parnasse to the Porte de Versailles, will complete the system. The work will be commenced shortly. The prolongation of the Rue de Rennes to the Seine will also be commenced shortly. The new portion of the street will cross the buildings of the Institute, including the principal court in which are situated the studios of the Academicians, that of M. Fremiet among others. A bridge over the Seine below the Pont Neuf will connect the new road with the Rue de Louvre. The cost of this bridge, which is to be of a monumental and decorative character, is estimated at 3,000,000 francs.

It has been proposed to transform the Hotel de Païva into a Mairie for the 8th arrondissement, a scheme which has met with violent opposition from the inhabitants of the Champs Elysées, who do not wish to see a business building established there. Other strong objections have been raised on account of the objectionable associations connected with the building. It is now proposed to establish the new Mairie in the Rue de Penthievre on the site of an Infantry barracks, which can be provided for in some other quarter if the State consent to the arrangement.

The Prefect of the Seine has at last settled the question of the Petit Palais. It is to be named Palais des Beaux Arts, and like the Galliera and Cernuschi Museums, it has been placed under the administrative direction of M. R. Brown, Inspector-in-Chief of the Fine Art Department of the municipality; and M. Georges Caïn, Curator of the Carnavalet Museum, has been commissioned to arrange there the art collections now at Auteuil and elsewhere. Besides the permanent museum, the palace will be a place for temporary exhibitions, for which there are numerous applications—probably the first one will be the designs for street signs, which has been suggested by M. Detaille. This exhibition will probably take place in the spring, and will include not only models of signs proposed to be put up in the Paris streets, but a collection of ancient examples from the Carnavalet Museum.

The bust of the late Felix Tisserand has just been placed in the antechamber of the Institute, opposite to that of Chateaubriand. Tisserand was director of the Observatory of Paris and member of the Academie des Sciences; the bust is the work of M. Maillard.

The well-known Grosse Horloge at Rouen is in a dangerous state of dilapidation, and the Municipality and the State have agreed to put the work into a thorough state of repair at their joint expense.

The printed list of the winners of medals and diplomas at the 1900 Exposition is now being issued, and occupies 1,500 pages. Five thousand medals and diplomas have already been despatched to their owners, but there are still about 15,000 to send off. M. Pickard has commenced his report on the Exhibition of 1900.

Much talk is made about the two fissures which have been discovered in the stonework of the façade of the new Opéra Comique, on the Place Boieldieu. The architect, M. Bernier, has been much blamed, but according to him these fissures are merely local and have not the slightest importance as regards the solidity of the façade.

The auction of the ground now occupied by a portion of the old Marché du Temple was not successful, there being no offers above the starting sum.

The inauguration of the new Victor Hugo Museum in the buildings of the Place Royale—now Place des Vosges—will not take place on February 26 next as proposed. The installation will not be complete by that time, and the hoped-for inauguration to take place during the fêtes to celebrate the centenary of the birth of the poet will have to be postponed. The delay is put down to the slackness of the authorities, and various difficulties with the late occupiers of this portion of the building. The centenary fêtes, however, will not suffer. The monument to Victor Hugo, now being completed by M. Barrias will be duly unveiled on February 26. A great commemoration fête will take place in the afternoon at the Panthéon, and a representation of one of Hugo's dramas at the Théâtre Français in the evening.

A small fire at the Palace of Versailles has called the attention of the authorities to the fact that this marvellous museum of decorative art and history is entirely unprovided with any efficient provision against danger from fire. The Prefet of the Seine and Oise Department has requested the public powers to inquire into the matter with all urgency.

The Court of Appeal at Paris has just acquitted MM. Mattrat and Galeron, the contractor and architect respectively of the footbridge of the Globe Celeste, the fall of which caused so many deaths during the Exhibition. The court, however, confirmed the decision of the former court as regards the responsibility of M. Tedesco, the engineer of the footbridge.

The director of the Gobelins Tapestry Manufactory has decided to reproduce in tapestry Botticelli's well-known picture the allegory of spring. A copy is being made from the picture in the Museum at Florence, and the tapestry work will be commenced at the Gobelins as soon as the copy is completed.

The new Crèche of Vincennes was inaugurated a few days ago. The building has cost about 6,000*l.*, a third of which was obtained from the taxes on betting clubs, and the rest from public and communal subscriptions. The architect is M. Fromont, architect to the Town of Vincennes, and the building is said to be arranged in such a manner as to make it one of the most modern of this style of institution.

It is very probable that the additions proposed by M. Puech to the terms of the law of 1793 concerning copyright in artistic work will be passed by the French Government. The new terms consist in an addition to the first article of the law of 1793; after the words "authors of all kinds of writings, composers of music," the words "architects, sculptors," are to be added. It is also added, "the same rights apply to sculpture of ornaments, whatever may be the distribution or the merit of the work."

The jury for the "concourse de façades" of houses built in 1900 is now making its visits of examination to all the buildings inscribed for the competition. There are fifty competitors this year, as against seventy-one for the last competition.

There is a little difficulty concerning the arrangement of the next Salon at Paris. M. Roujon, the Minister of Fine Arts, has informed the Société des Artistes Français that the Grand Palais of the Champs Elysées cannot be put at its disposal before April 14 next, owing to its occupation by the Concours Hippique. M. Bougoereau, the President of the Société, finds the time too short for the necessary work of installation before the opening day of the next Salon, and it is said that the Société will renounce holding the Salon of 1902 if the above date is maintained.

The Société Nationale des Architectes de France have elected M. Fernoux president

M. Bouhon vice-president, and M. Christie secretary, for the year 1902.

The Paris Municipal Council has decided to invite the public authorities to consider the scheme of installing two works in the Seine Department for the combustion of domestic refuse. The number of rag-pickers who each morning ransack the boxes of refuse which each householder is obliged to place in the street in front of his house each night, or place in an available position in his courtyard, are up in arms against this scheme.

The industrial exhibition at the Galliera Museum last year had excellent results, and was of real value to French artists. Next April another exhibition will be opened there consisting of ceramic work, wood-carving, stained glass, and bookbinding. It is intended in future that each exhibitor at these exhibitions should furnish drawings of the objects he has exhibited, which will constitute a permanent exhibition of designs in applied art.

Early in the year, probably in February, an exhibition of the works of Falguière will be held at the Ecole des Beaux Arts, which will include sculptures, pictures, drawings, and models, collected by the widow of the artist and his friend, Paul Dubois.

The interesting "Musée de l'Opera," which has been completely rearranged, will be open to the public in a few days. Among other objects it will include an interesting collection of reproductions of old stage scenery, with its decorations and its primitive machinery.

M. Bonnier, the architect to the Palais de l'Elysée, is continuing the decoration undertaken by his lamented predecessor, M. Chancel, and MM. Carlier and Guilbert have just finished the models for two figures representing "Les Danses Anciennes." These statues, which are to be executed in marble, are to decorate the lawns behind the Avenue Gabriel.

The number of statues in Paris goes on increasing. That of Balzac, by Falguière, which has been refused a place in the Palais Royale, because the Metropolitan Railway Station is in the way, is now to be set up in the Boulevard Haussmann at the end of the Rue Balzac, and near the house of the great novelist. The statue of Gavarni, the caricaturist, is to be raised by public subscription, but no place has yet been found for it. The statue of Gramme, the electrician, is to be set up alongside of the Conservatoire des Arts et Métiers. It is the work of M. Mathurin-Moreau. We must not forget to mention the porcelain tower, which the Sèvres Manufactory is commissioned to execute, to replace the erection called the Lantern of Demosthenes in the Park of St. Cloud, which was destroyed in the war of 1870. The new erection, from the designs of M. Sandier, the Director at Sèvres, will be a great deal higher than its predecessor. It will be in circular form, 8 metres in diameter and 45 metres high. It will have seven stories with a circular staircase copied from that at the Château de Chambord. The 30,000 pieces of which the tower is composed will be done in 100 batches, and take five years to prepare. They are all to be of stoneware, with polychromatic decoration on the exterior. The work will certainly not be completed before 1907. We may mention also the new seal of the University of Paris, the model of which has just been completed by M. Chaplain. It bears on one side a view of the Sorbonne, and on the other a group of three personages collected under a portico; the central figure personifies the University, under the figure of a woman in a Doctor's cap and gown, and two young students, boy and girl, listening to her instructions. The figure of the girl is a sort of official indication of the admission of women to scientific instruction, and their right to assume the title of either Doctor or Avocat.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.—A meeting of the Royal Institute of British Architects will be held on Monday next, the 6th inst., when a paper will be read on "Two Ionic Capitals in the British Museum," by Dr. A. S. Murray, Keeper of Greek and Roman Antiquities at the British Museum, illustrated by lantern slides.

CEMENT IN NORTH FORMOSA.—Writing last month on the trade of North Formosa, Mr. Acting-Consul Wawn incidentally remarks:—"The import of cement during the year 1900 was valued at £3,339*l.*, all of which came from Japan. I am informed, however, that the Japanese are now beginning to take more of the Green Island Cement Company's production, it being much superior to the Japanese-made article. The price of the foreign company's cement has been reduced till it is almost as low as the Japanese."

Illustrations.

WESTMINSTER ROMAN CATHOLIC CATHEDRAL.

SINCE the Houses of Parliament there has been no such remarkable building erected in London as the new Westminster Cathedral. It would be premature to enter upon a detailed account or criticism, or to speak of it as an accomplished success, for from the nature of the interior, which, in the architect's estimation, is the most important part of any church, it cannot be finished for many years to come. But the scaffolding surrounding the exterior is fast vanishing—sufficiently so to allow of the view presented to our readers being made.

It is unfortunate that it is impossible to get further away from the building, which is closely surrounded by lofty houses on three sides. The apse and flanking turrets compose with great effect, though the archbishop's palace shuts off the best point of view. The inside—at present a tremendous pile of naked brickwork, crowned with the four great saucer domes—is most impressive, even as it is, without the marble veneer and mosaic that is eventually to adorn it. It will be possible for the public to view this when it is thrown open for worship shortly after the Coronation, and until the interior is seen no opinion should be expressed upon the merits of the whole. In our opinion it is a building likely to be regarded by future generations as marking an epoch in English architecture. The plan is eminently suited to a great congregational service; the acoustics are said to be perfect; and the style of architecture is most suitable from economical reasons to a great church. It is at present the one building of absorbing interest to students and to many practicising architects besides. Its claim upon our attention is not based upon any mere striking originality, but upon the effective effort of a great mind to solve a problem that is always new and always surrounded by the many cramping conditions of site, requirements, and cost.

WINDSOR CASTLE.

IT is unnecessary here to describe in detail the various buildings of Windsor Castle or to enumerate the many scenes in the history of England from the time of the Conquest to the present that its walls have witnessed. It seems fitting, however, at the beginning of a year which will be marked by the gorgeous ceremonial of the Coronation, that a view of this most imposing of Royal residences should be included in the New Year's number of this journal.

Much work was done during the last century to which architecturally exception might be taken, but the general effect of "scale" remains, and the middle and lower wards are particularly full of interest. The view chosen is that from the meadows on the north-west between the town and the river. There is a fine contrast between the solidity of the Curfew Tower and the walls that flank it, and the delicacy of the detail of the chapel of St. George and the Garter Knights; these, together with the great mass of the Round Tower or keep in the background and the group of still picturesque houses below the Castle walls, make a group which it would be difficult to surpass.

R. W. PAUL.

THE TOMB OF MAXIMILIAN I., INNSBRUCK.

THIS imposing conception is due, in the first place, to an Augsburg artist, Guglielmo Sesselschreiber, though the work was mainly carried out on his lines by other artists.

The idea of an avenue of figures leading the eye up to the principal object in the composition is a very appropriate and striking one; possibly derived, in some remote way, from the Egyptian avenue of sphinxes, or the Druid avenue of stones.

The figures are mostly by Michael and Stephen Godle, Lendenstreich, and others. Peter Vischer was among the contributors. The statues are in bronze.

In the centre, towards the east, is Maximilian, in imperial robes and crown, kneeling on an elevated sarcophagus. At the angles are small accessory figures representing virtues. The sides of the sarcophagus are adorned with reliefs, representing scenes from the life of Maximilian. All this structure is surrounded by an elaborate grille of German character.

On the north and south sides, standing between the columns of the nave, on a raised plinth, are twenty-four majestic figures, and on the east side four more. These represent ancestors and relatives of the illustrious deceased. Among the former, it is interesting to note the inclusion of "King Arthur of Britain." The figures stand in sets of four, the "Clodwig," "Hapsburg," and "Cimburgis" groups, &c.

The figures bear torches, sceptres, swords, batons, &c., besides elaborate escutcheons. The extraordinary armour and costume of these statues, their lifelike action and characteristic portraiture, render the *tout ensemble* most singular and impressive.

A. C. C.

SOMERSET HOUSE BEFORE THE EMBANKMENT.

THIS drawing was made by Mr. W. Monk, on the basis of old prints, to show the effect of Sir W. Chambers's principal architectural work before its river front was intruded upon and partially hid by the Thames Embankment.

It is given in connexion with the article on Sir W. Chambers which will be found on another page.

THE GATEWAY TO THE ALBANY, AS ORIGINALLY DESIGNED BY CHAMBERS.

THIS illustration is from a large unpublished water-colour in the Soane Museum, and shows the design for the entrance to the forecourt of what afterwards became the Albany Chambers, but was originally designed by Sir W. Chambers as a town house for the second Lord Holland, under the title of Piccadilly House, and in 1770 sold to the first Viscount Melbourne, when it took the name of Melbourne House. In 1804 it was transformed into the Albany Mansions and additions made to it in the rear for further accommodation, this work being carried out by Holland.

There appears to be just room for doubt whether this gateway was actually carried out or not; at least we can find no documentary evidence of it beyond this drawing; but Mr. Birch, the curator of the Soane Museum, is of opinion that it represents what was there and has been removed.

We are inclined to the same opinion, because the drawing is grouped in the Soane Museum along with a set containing a large water-colour view of the quadrangle of Somerset House as it stands, and other views of buildings known to have existed; and the original of this bears more the appearance of a drawing taken from the actual building than of an imaginary one to exhibit a design. Moreover, considering the usual practice of that day, it seems hardly likely that a nobleman's town house would stand for half a century or so with an open forecourt in front of it, and no gate or barrier.

The wall shown on the left of the drawing is that of the courtyard of old Burlington House; the realistic manner in which it is shown supports the idea that the drawing represented actual work *in situ*.

VARIOUS WORKS BY SIR WILLIAM CHAMBERS.

THIS sheet of illustrations shows examples of some of Sir W. Chambers's work. Trinity College, Dublin, and the "Marino," Clontarf, are well known, and have been illustrated before in our pages.

Duddingstone House, near Edinburgh, is less familiar. We give a view of the hall and staircase, and an illustration of one of the chimney-pieces (a class of ornamental design of which Chambers did a good deal), from photographs which the present proprietor of the house has kindly allowed us to have taken.

The elevation and plan of the house, reproduced from the "Vitruvius Britannicus," will be found on page 5.

VARIOUS DESIGNS AND DETAILS BY SIR WILLIAM CHAMBERS.

THESE designs are photographed from drawings in the Soane Museum, where there is an

interesting though very miscellaneous collection of drawings either made by Chambers or made under his direction and for the working out of his designs.

A great many of these are not named or described in any way except by the collective title of the portfolio which contains them. Thus Nos. 2 and 4 are from a collection described in a specially designed decorative title as "Designs for Gateways, Garden Buildings, &c." Both of them, as far as general style is concerned, might pass for either mausolea or park pavilions; in No. 2, however, the urns in the niches have a funerary appearance. At the back of the sheet on which No. 4 is drawn is a note to the effect that "there should have been a tablet with an inscription to Valour, Beauty, and Science," which points to the erection being intended to be in some way commemorative.

No. 5 is one of four elevations, on one sheet, of the four walls of a library, and is interesting as an attempt to render the bookcases a more integral portion of the design of the room than is generally the case.

The remaining drawings are from a portfolio labelled "Somerset House." Nos. 1 and 6 are designs for the treatment of windows; No. 3 is inscribed "Elevation of the Royal Academy Great Stair;" apparently one arch through or behind which the stair was to run. The writing on the drawing refers obviously not to the drawing itself but to something else which was to be combined with it; the upper inscription reads "Entablature continued without a break and a tablet running through the bedmould and the [word illegible] moulding of the architrave." The lower one, within the arch, is a direction to the effect that there is to be a "plain arch with impost, archivolt, console, [word illegible] and festoons, the under part of the impost to range with the top of the flat part of the fifth rustick." The notes are interesting because they throw a light on the way of working in those days, indicating that the general character of the details required was so well understood that it was only necessary to mention them in writing.

Nos. 7 and 8 are decorative details for Somerset House. No. 7 is evidently intended for a room in connexion with the naval administration, from the nautical character of the details; No. 8 is a frieze for one of the doors of the Royal Academy rooms.

ANTWERP AT THE CLOSE OF THE SIXTEENTH CENTURY.

WHEN arriving at Antwerp, and, for the first time, seeing the fine view of the town from the Scheldt, it must often occur to the visitor to wonder what kind of buildings occupied the "river front" in the Middle Ages before the vast modern hotels, wharves, and warehouses were erected, forming such discordant elements, and contrasting so disagreeably with the fine skyline of ancient church towers and gables. I always thought over this matter until I came across two scarce and very interesting old books, which at once showed me how much had been lost, in a picturesque point of view, by the alterations made during the last two centuries, especially at the close of the eighteenth and commencement of the nineteenth. Down to that period the general aspect of the view had remained pretty much as in earlier times. The French Revolution seems to have created more havoc here than in the land which originated it. If we want to study out what has been lost at Antwerp we should consult such books as "Brabantia Sacra et Profana," or Eitzinger's "De Leone Belgico." The former work is dated 1696, and illustrated by L. Voisterman, Harrewyn, Wencelaus Hollar, &c., but is very rare, and the copy I possess is the only one I have ever seen. The latter book, though earlier in date, is to be met with in several old collections. It has upon its inner "title page" the curious looking date CIↃ,IↃ, LXXXIII. (1583).

There is a third book called "Les Delices de Brabant," which is not scarce; the illustrations consist of some very inferior copies of "Brabantia Sacra" and a few original drawings of little merit.

Judging from these three works, we can trace the alterations which have been made in the river wall. Originally there were two towers near the cathedral; one was octagonal and crowned by a series of gables and a spirelet, rather lofty. The other, more to the south, was circular in plan, solid, and sturdy, crowned with an extinguisher top. Between these the ancient moat flowed into the Scheldt beneath two arches over which the ramparts were carried. The two towers are indexed in one of the views as "Vercooper's Tooren" and "Backer's Tooren." To the south of the latter extended the "Hüy kay" and the "Bierhof." Against the latter was a large solid gateway, shown in one of Eitzinger's illustrations, and a little beyond it, to the south, stood the great abbey of St. Michel, with its fine church, shown in a view in "Brabantia Sacra." It was a large, lofty, cruciform structure, supported with flying buttresses, with a lantern-crowned tower at the end of the north transept. The cloisters and chapter-house are shown to the south; the latter had three "rose windows" at the eastern end. The principal gate was to the east, and consisted of a large archway flanked on either side by pierced arcaded walls, the openings filled in with ornamental ironwork. There were Doric or Tuscan rusticated columns between the openings, and large statues both on the pediment and the wing walls. Nothing whatever remains of this splendid building. The wall and its towers continued past the west end of the church until it reached the "Casteel," which stood upon the site of the present "Citadel," and was a picturesque group of buildings with a church and numerous windmills. This closed the view to the south. Returning to the cathedral, to the north the second moat ran into the Scheldt a little way beyond the "Vercoope tower"; on its south bank stood the ancient church of St. Walburg, called "De Borch Kircke," with a lofty western tower and slate spire. It has, however, entirely disappeared, with the moat, which was constructed by Henry I., Duke of Brabant, in 1201, to enclose the suburb which had then grown important. In 1314, however, it became necessary to construct a new moat and fortifications; and in 1543 Charles V. built a new town round the old one, and surrounded it with a moat and walls. The only very important building in it was the Hanseatic Hall, with its lofty tower.

Several later additions have been made, but until a few years back the plan was not materially changed, as may be seen by comparing Eitzinger's plan with that given in Murray's "Handbook" for 1858.

Eitzinger gives in his views drawings of the great Spanish ships which were then at Antwerp, especially one which belonged to the Duke of Alva. This was a fine example of naval architecture of the period, and I have introduced it into the view in the position where it would have most probably have floated.

H. W. BREWER.

ON THE SCHELDT IN THE TIME OF VAN ARTEVELDE.

DURING the campaign of the French and the Earl of Flanders against Philip van Artevelde, which ended in the defeat of the Flemings and the death of Artevelde at the battle of Roosebeke (1382), it was part of Artevelde's tactics, as represented in Sir Henry Taylor's great poem, to block the Scheldt at different towns on its banks, so as to prevent the French from using the river for the transport of their supplies.

In making this sketch of an imaginary mediæval bridge, I have supposed it to be one of the bridges thus blocked by Artevelde's orders; a massive chain across one arch, a movable boom across the centre arch, which could be opened for the passage of friendly craft if necessary, and which suggests the idea of the "turnpike" in the quotation at the foot of the plate.

The iron grids or grates erected on the buttresses suggest the primitive method of lighting at night by fires. The heads on pikes over the gate may be thought out of keeping with the sway of Philip van Artevelde, who though a resolute was not (for those times) a cruel man; but if his captains were such rough diamonds as Taylor pictures them in the characters of "Van den Bosch" and "Roosdyk," any town under their immediate guardianship would probably have been made to furnish executions enough to keep up a good supply of this peculiarly mediæval form of gateway decoration.

That both Mr. Brewer and I should have taken the Scheldt as the scene of our imaginary pictures was an accidental coincidence.

H. H. STATHAM.

VIEWS IN OLD KNIGHTSBRIDGE.

THESE views are reproduced from drawings in the Crace collection at the British Museum, all except the long one at the top of the page, which is from a portion of Salway's splendid collection of elevations and plans (in the British Museum manuscript-room) made for the Turnpike Trust, and in which every house, post, hedge, and every detail, is plotted in plan and elevation along some miles of road, and shown in drawings finished with the greatest delicacy and precision. The work is worth examination merely as an example of beautiful draughtsmanship.

The portion which we have reproduced specially bears on the subject of the article on Knightsbridge in the present issue, as it shows the actual position of the bridge over the West Bourne, which ultimately gave its name to the whole district. The other places shown are nearly all referred to in the article on Knightsbridge. The view of St. George's Hospital is not properly within the scope of the article, as it dates from the eighteenth and not from the nineteenth century, but we thought it would interest some of our readers to see the line of what is now Grosvenor-place, as it appeared till nearly the close of the eighteenth century.

DESIGN FOR A TOWN HALL FOR ONE OF THE NEW LONDON BOROUGHS.

THE above was the subject set by the Royal Academy for the competition for the gold medal and Travelling Studentship in Architecture for 1901, which was gained by Mr. Bernard H. Webb with the design of which we publish the perspective view and the plan of the principal floor.

The following is the author's description of his intentions in the design:—

"The design was planned on the assumption that in London the public hall should be distinct from the official portion of the building. The public entrances to the hall lead direct from the back street, with lavatories and cloakrooms adjoining, official communication being provided from the main corridors on each floor. Public entrances and staircases from the side streets communicate direct on one side with the Rates Office and Accountant's department on the ground floor and the council chamber and committee rooms over, and on the other side, with the Surveyors, Medical Officer's, and Town Clerk's departments on the ground floor, and the Surveyor's and Electrical Engineer's drawing offices and the Mayor's suite of rooms over. A separate entrance and staircase communicates with the stage and public gallery of council chamber. Lavatory accommodation is provided on each floor off the main corridors."

We should add that in reviewing the R.A. students' designs two or three weeks ago we did an injustice to Mr. Webb in complaining of the inadequate cloakroom accommodation in his plan, being misled by the sight of two small apartments labelled "Cloakroom," which it appears were only intended as additional accommodation for certain occasions. It would have been clearer, certainly, if they had been labelled "Extra cloakrooms."

MONUMENT AT CHARTRES.

THIS monument, of which we give a general view and an enlarged illustration of the central group of sculpture, has recently been erected at Chartres to the memory of natives of the Department of Eure and Loire who fell in the Franco-German war. It is placed at the entrance to the "Promenade des Charbonniers," and consists, as will be seen, of an arch flanked by a curved screen wall. Over the arch is a central feature decorated with the arms of Chartres, Chateaudun, Dreux, and Nogent. Beneath the arch is the principal group of bronze sculpture, the work of M. Henri Allouard, consisting of a female figure symbolising France, waving a standard, and supposed to be pointing to the enemy. At her feet is a wounded officer still endeavouring to defend himself. At the extremities of the monument are placed two bronze figures, at the right an Artilleryman, at the left a Mobile, the work respectively of M. Loiseau-Bailly and M. Boverie. In front of the monument is a large semicircular basin of water into which two lion-head spouts discharge.

The architect who originated the general design is M. Nénot, the eminent architect of the new Sorbonne building. The monument, which was inaugurated at the end of October last year, is a fine example of the judgment

and good taste which the French bring to bear on works of this kind, and the happy result of collaboration between architect and sculptors, whereby a work is secured which is a harmonious whole.

COLCHESTER TOWN HALL.

THE new town-hall at Colchester was on view to the public last week. The impression received from the actual building is very different from that conveyed by the drawings which we have been able to publish from time to time. These drawings were mostly prepared in competition, and, except for the clever planning, gave an impression of straining after originality, resulting—if we may so describe it—in a "jumpy" design. We hope the time is not far off when perspective drawings will be excluded from competitions, unless necessary to express a scheme unintelligible to the assessor in plan and elevation. In reality, Mr. Belcher, the architect of the Colchester town-hall, has, in our opinion, only just missed producing a great building; its defects are rather the architect's misfortune than his fault, due partly to the site and partly to the requirements.

The site is a corner one in a prominent part of the High-street, restricted in area, and with its frontages at an acute angle with each other. The requirements consisted of a Moot-hall, council-chambers and committee-rooms, law courts and police offices, municipal offices, and a public library. Our readers who studied Mr. Belcher's plans will remember the general arrangement of these requirements; he took advantage of the considerable incline down West Stockwell-street to get good rooms in the basement besides heating-chambers and stores. On the lower ground floor are the public library, the police offices and cells, strong rooms, and the weights and measures department. On the ground floor is the principal entrance from the High-street, leading into a spacious hall with municipal offices on right and left, with a fine marble staircase in the centre, under which is direct access to the law courts corridor, which has an entrance of its own in West Stockwell-street. The law courts are two moderate-sized rooms, exactly alike, panelled and furnished in unpolished oak, with great dignity of design and charm of detail.

The grand staircase leads to the council chamber and committee rooms on the first floor. An ample corridor runs the length of the building to right and left of the main staircase; on the High-street side are a fine suite of committee rooms capable of being thrown into one by sliding partition doors. The council chamber is fitted cleverly into an irregular quadrilateral, which is squared up and centralised by the use of detached columns and by the segmental arch at the upper end of the room, which enhances the dignity of the dais. The chamber is lighted by large windows of stained glass of considerable merit. The Chairman of the new Town Hall Committee and present Mayor, Mr. Wilson Marriage, presented "the Huguenot window," which commemorates the reception given by the town to the French Huguenots and Flemish refugees and the establishment by the latter of the weaving trade. Both the glass and design are very fine, the work of Messrs. Powell & Sons. The other windows are also very good in a simpler and more architectural way, and are presented by Councillor Claude E. Egerton-Green. Here we may remark upon the excellence of the glass throughout, including that in the Moot Hall, which is more or less descriptive of the history of Colchester, arranged by Mr. W. Gurney Benham. In most of the windows a plain background sets off the concentrated coloured portions with admirable decorative effect.

The Moot Hall has been placed upon the second floor—a bold idea. It measures about 30 ft. by 40 ft., with a barrel-vaulted roof supported on twelve pairs of detached columns, the order giving great richness and scale to the hall. The lighting is by the three handsome windows already referred to on the High-street side, and by a subdued top light. The Moot Hall is the crowning feature of the design; the marble staircase attracts you from floor to floor, the grasp of the planning and the mastery of detail giving interest, if not actual pleasure, at every turn. Throughout the scale is small but firmly held, plain wall space is cherished, and cornice and coffering most carefully studied. Here and there originality has been rather needlessly sought after in some comparatively unimportant detail, perhaps humanising the whole by an imperfection.

With regard to the exterior, we may say at once that it would have been better without the tower. The tower in itself is a fine piece of work, but there was no place for it on the site; it is choked by petty offices and by the roof of the main building. We do not blame Mr. Belcher for this—we do not know his opinion upon it. He had that most difficult problem, the combination, on practically the same elevations, of large and small requirements, with a monumental tower thrown in. If the result is not wholly harmonious, it is, as Mr. Shaw (the assessor) expressed it in his report, "a scheme of very exceptional merit . . . which will impress all as being not merely exceedingly well fitted for its purpose, but most original and striking as an architectural composition." Colchester is to be congratulated upon a building worthy of its antiquity, and also upon the extraordinary generosity of individual citizens in gifts for the enrichment and adornment of their municipal enterprise. They have contributed to a deeply interesting modern building—modern in its varied requirements, expressed with the lucidity that is art, whatever style it may be clothed in. The style has a slightly Genoese flavour, not out of keeping with the liberal foreign traditions of the city.

MOTOR VEHICLES FOR HEAVY TRAFFIC.

A GRADUAL and marked improvement in the construction and behaviour of motor traffic vehicles has been observed since the institution of the Liverpool trials, some three years ago, with the object of encouraging the development of heavy motor waggons suitable for trade and agricultural requirements. In the judge's report of the 1901 trials, the opinion is expressed that reliance may be placed upon the systems to which gold medals have been awarded, for regular employment in general haulage operations where due care and supervision are exercised. Amongst the vehicles taking part were two propelled by internal combustion engines using petroleum spirit. The chief drawback of these was the heavy cost of fuel per ton-mile as compared with that of solid fuel in steam-propelled waggons, but it is probable that this disadvantage would be more than counterbalanced in many cases by the ability of travelling considerable distances at speeds of from six to eight miles an hour with loads not exceeding two tons. The further adoption of internal combustion engines for heavy traffic will be largely dependent upon the utilisation of commercial forms of petroleum, under the varying conditions imposed by road locomotion, and without the creation of a nuisance. Solid fuel was chiefly used for the steam-propelled waggons taking part in the competition, and we are pleased to notice that the judges consider no risk of fire need attach to such vehicles by reason of discharges from the funnel, as the effective baffling of sparks, cinders, and dust has now been successfully accomplished. Moreover, it is stated that no nuisance need arise from the blowing-off of steam, as the firing can always be under adequate control.

So far as performance is concerned, it is now established that in good weather a motor waggon can average five miles an hour, thus bringing a journey of forty miles a day well within the practical limit. The vehicles to which medals were awarded are considered to be capable of going anywhere that a horse-drawn vehicle is ordinarily required to go, and to possess the advantage of being able to travel backwards with great facility—a feature of considerable help in entering and leaving many loading places. Gradients of 1 in 9 appear to be readily ascended, and short lengths of road as steep as 1 in 8 to be climbed without difficulty by fully-laden vehicles. In manœuvring and in ascending or descending hills, the judges consider the powers of control possessed by the driver are distinctly superior to those exhibited by the best types of horse-drawn vehicles. One undesirable feature is that on all but one of the waggons tested constant stoking is still necessary. This might be avoided by the adoption of automatic firing arrangements, which are to be desired for more reasons than one. The judges make lengthy comment upon the legal restrictions which at present interfere with the development of a most promising British industry. Motor traffic is placed at a disadvantage compared with horse-drawn traffic in the respects that the same load may not be carried, and that the width of the vehicles must be kept within certain fixed limits. The report recommends that a limit of 16 tons moving weight for any single motor vehicle shall be substituted for the present limit, which being on the tare alone has sometimes the absurd effect of rendering equal moving loads legal or illegal, according to the proportions existing between tare and gross weight. An increase of axle load could not cause injury to roads, providing the width of tyres were properly regulated. On the contrary, it would be of direct benefit, as the action of the steam roller demonstrates, and the extended use of motor waggons would reduce the serious damage done to highways by the pounding and scraping action of horses' feet. It is to be hoped that the report will bring home to the authorities the fact that restrictive enactments are now depriving the country of industrial facilities which ought to be enjoyed, and that they are preventing the development of motor waggons for military purposes, thus adding unnecessarily to the burdens of the taxpayer.

ARCHITECTURAL SOCIETIES.

EDINBURGH ARCHITECTURAL ASSOCIATION.—A meeting of the Edinburgh Architectural Association was held recently in the new rooms of the Association, 117, George-street. Mr. Henry F. Kerr, President, occupied the chair, and, referring to the minutes of the Council meetings, which reported upon what had been done in connexion with the proposed buildings at Edinburgh Castle, said he had seen the Town Clerk that day, and he had been told that the matter was not being lost sight of by the Town Council, and that nothing definite would be done until the Joint Committee of members of their Association, the Cockburn Association, and the Arts Club had been informed on the subject and given an opportunity of again expressing their views upon it. A paper was afterwards read by Councillor Mackenzie on "Ventilating and Heating." Incidentally he mentioned that eight or more persons often travelled in a single compartment of a railway carriage with the doors shut, so that they had only about 245 ft.—30 cubic feet per head—and he characterised that as a veritable death-breeding trap. He went on to say that some of the sleeping berths of the London trains, where a person was locked up for eight hours, were almost as bad, and that all that took place whilst authorities alleged that a healthy adult in repose required 2,000 cubic feet of fresh air for healthy breathing. The lecturer's strongest indictment, however, was made against the want of fresh air in the dwelling-house, and more especially in the bedroom, which most people thought should be as closely secured against any incoming air as it was possible to make it, and he was persuaded that more consumption and other diseases were contracted through foul air in bedrooms than in any other manner, by the lowering of the vitality of the body, and making it a fit breeding place for all kinds of infectious and other diseases. He next adverted to the ventilation of churches and public buildings, and, while admitting the desirableness of good ventilation in these, expressed some surprise that so much should be made of having to sit for one hour and a half in the week in a polluted atmosphere in the church when no objection was taken to sleeping seven hours per day in the poisonous atmosphere of the unventilated bedroom. He did not think the lower classes were much more to blame than the classes above them, as he often found the most deplorable want of education on this subject among educated people. Crowded schools should be as thoroughly ventilated as possible by mechanical means, and it was not there, he said, that economical ideas of cheapness should be entertained. Passing on to the second portion of his subject—namely, heating—he expressed his strong partiality for the open fire as the cheeriest and the healthiest means of heating and promoting ventilation. He admitted its want of economy as compared with the close stove, but with all its drawbacks he put the open fire first. In large rooms he would supplement the open fire by fixing hot-water

radiators where most suitable, but condemned altogether the hiding of hot-water pipes or coils in cases or behind screens, where they could not be regularly cleaned. Putting the open fire first, Mr. Mackenzie put the gas-stove without a chimney last. That, he thought, was the worst possible means of heating. A gas-stove, vomiting out poisonous fumes into the atmosphere of a room, was nothing else than a poison manufactory, and should be prohibited by law. The fact of such a stove not giving off an offensive smell only added to the danger from the apparatus. He pointed out that when gas was burned carbonic gas must be given off, which, although not directly a poison, did not support life, and polluted the air. He went further, and said that often from imperfect combustion carbonic oxide was generated, the effects of which had often proved fatal. He believed gas had a great future before it as a heating agent, but he trusted that effectual means would always be taken to get rid of the fumes. He advised that, in estimating the amount of heating for any building, a basis of 25 deg. of frost outside should be taken, in order that when the cold weather came—though it might not come for years—the apparatus might be able to keep 50 deg. or 60 deg. Fahr. inside. Finally, he made allusion to the usual mode in which architects proceeded in getting three or four heating engineers to give schemes and estimates, which had no common basis, and which varied widely in cost, the upshot often being that the cheapest scheme was taken, which frequently turned out to be the dearest, because the worst, in the end.—*Scotsman*.

ROYAL INSTITUTE OF ARCHITECTS OF IRELAND.—On the 19th ult. the annual general meeting of the Royal Institute of the Architects of Ireland was held in the offices, 20, Lincoln-place. Mr. G. C. Ashlin, R.H.A., the newly-elected President, on taking the chair, thanked the members for the honour they had conferred upon him in electing him to one of the highest positions in the gift of the Institute. The President, in the course of an address, said that, coming after the long and successful presidency of Sir Thomas Drew, during which the interests of the Institute were so much advanced, he thought that his task would not be an easy one. Continuing, he deprecated the practice which had sprung up of late amongst public companies who had their headquarters in London in employing English architects in erecting buildings in Dublin. He recognised the difficulties in connexion with ecclesiastical work which were experienced in finding artificers here with the necessary equipment for carrying out the ideas of their clients, and to improve the present condition of affairs help had been promised by their public departments, and especially by the technical schools, and he thought that still further assistance might be given if prizes were offered at the Cork Exhibition for specimens of the work which were now in constant demand.—The secretary, Mr. W. Kaye Parry, read the annual report, which stated the satisfaction that has been felt at the inauguration of the Ulster Society of Architects, a body affiliated to their own, and formed for the purpose of organising the architects of the Northern province on the same lines as their own Institute. In consequence of the refusal of the Ennis Asylum Board, in the proposed competition for the extensive additional buildings, to appoint, as assessor, an architect who should have power to amend the faulty conditions of the competition, the Council advised the members of the Institute to abstain from taking part in the competition, and they were glad to say that the members loyally supported the action of the Council in this matter. During the year they lost no members through death, while, on the other hand, they had gained a considerable number of new members, the total now standing at 101.—Mr. J. Rawson Carroll proposed the adoption of the report, and pointed out the benefits which the Institute had secured for the members during the past year. Mr. William M. Mitchell, R.H.A., seconded the adoption of the report. Mr. W. Kaye Parry, in supporting the resolution, said the Council had decided to publish a little book giving an authorised list of architects' charges. The report was adopted. Mr. Batchelor, in the absence of Mr. Owen, presented the finance account, which showed that there was a balance of 66*l*. 5s. in hand. The report was adopted. The following were elected on the Council: Sir Thomas Drew, Messrs. W. M. Mitchell, J. R. Carroll, C. Geoghegan, F. Batchelor, R. C. Orpen, H. Pentland, A. E. Murray, G. Sheridan. In the evening the President and Council of the Institute gave their annual dinner in the Shelbourne Hotel. Mr. G. C. Ashlin, President, occupied the chair. After dinner Sir Thomas Drew, past President, passed round the loving cup. The Chairman then gave the toast of "The King," which was loyally honoured, the company singing the National Anthem. The Chairman next gave "Prosperity to the Institute." In doing so he said they commenced life early in the last century, and, in fact, it was nearly commensurate with the long reign of the late Queen. Their membership was increasing, and he believed that in the last year there had been an increase of from 10 to 20 per cent. The Institute had a great way to go yet before they reached their ideal. One of the suggestions thrown out at their meeting that day was that they should look forward in the immediate future to making some attempt at registration, and he hoped something would soon be done in that direction. He coupled with the toast the name of Mr. Charles Geoghegan. The toast having been honoured, Mr. Geoghegan replied. The Chairman also proposed "Our Guests," which was responded to by Father Murray, Dr. Swanzy, and Mr. V. B. Dillon.

ULSTER SOCIETY OF ARCHITECTS.—The annual general meeting in connexion with this society was held on the 18th ult. in Ye Olde Castle Restaurant. Sir Thomas Drew, President, presided, and in the course of a brief address congratulated the Society on the progress it had made and the good work it had already accomplished. Mr. W. J. Gilliland, Vice-President, afterwards submitted a report, which, amongst other matters, referred to the proposals of the Belfast City Corporation to regulate the "elevations of buildings," to which we refer on another page. Messrs. Seaver, Tulloch, and Lamont were appointed scrutineers, and declared the following elected:—As member, Mr. Jas. A. Hanna; as associates, Messrs. J. Bevin, W. C. Maxwell, and C. D. Patterson; as students, Messrs. D. Parkhill and J. Seeds. The following officers were elected for 1902:—President, Sir Thomas Drew, R.H.A.; Vice-President, Mr. W. J. Gilliland; hon. secretary, Mr. N. Fitzsimons; hon. assistant secretary, Mr. W. B. Fennell; hon. treasurer, Mr. Vincent Craig; Council, Messrs. J. J. M'Donnell, M. A. Robinson, F. H. Tulloch, W. J. Fennell, and Henry Seaver. The annual dinner was held in the evening, Sir Thomas Drew, President, in the chair. The toasts of "The King" and "The Prince and Princess of Wales" having been honoured, Mr. Gilliland proposed "The President," and in doing so he said that Sir Thomas Drew was exceedingly popular with his professional friends in Dublin. Sir Thomas they all recognised as being the great stronghold of professional architecture in Ireland, and he had maintained the dignity of his profession in every possible way. Their thanks were due to him for the position he had taken up in reference to the dignity of the profession, and also for the friendly interest he had taken in their society in the north. Without his enthusiasm, support, and sympathy they never could have attained to the position which they had done in the organisation of that society in such a short period of time. The President, in reply, said he had a great desire to see the profession with which he was connected in a better position in his native town, and he felt proud that the time had come when at last an organisation of local architects was an accomplished fact. Their society came before the public in a rather strong position, because it was indirectly allied with the Royal Institute of British Architects in London—a most powerful body, which had ramifications not only throughout Great Britain and Ireland, but also the Colonies. It had often been put before him that something should be done for Belfast, one of the greatest and most prosperous cities in the United Kingdom, in the way of having such an organisation. That happily had now been accomplished. If he might be permitted to allude to current affairs, he noticed they had already found themselves face to face with questions of very great gravity to their profession as well as to the public of Belfast; and he had no doubt when in time they came to be better recognised their organisation would be an exceedingly useful one, working in harmony with the Municipality. That was the case in Dublin, where there was a kindly feeling existing between the architects and the Corporation. In all the legislation promoted by the Dublin Corporation in which architects were interested they had invariably been consulted. In Belfast there was a question which affected them. A Bill had been promoted in Parliament which would in some points affect the practice of architects in this city, and there had been put into his hands that night for the first time a draft which was proposed. Among other things it stated:—"The Surveyor may disapprove of such elevations on the ground that they are, in his opinion, objectionable, or that in any respect they are not in conformity with the requirements or provisions of the existing local Acts or by-laws of the Corporation." This was certainly a most extraordinary clause, and, he feared, was drafted under a total misapprehension and mistake. The draftsman of such a clause could not possibly have conceived what the ultimate result would be and how it would affect architects. In the first place, could he have thought what a blow it was to the liberty of the free subject in this free kingdom? Municipal laws as regarded buildings were no novelty. Parliament had been hammering away at them for fifty years, and, after many amendments and new Acts, municipal legislation as to buildings was in a pretty concrete state. The City of London had a system which, with all its faults, was as nearly perfect as it could be. The Local Government Board of England had issued model by-laws, which had been adopted by even the smallest Urban Authorities in the smallest towns. While the great Municipalities of England had their legislation and their by-laws pretty well now in smooth working order, he ventured to say in no part of the King's dominions would such a clause as that proposed by the Belfast Corporation be found. It would be impossible. Those things which were really objectionable and offensive in property were regulated by the ordinary legislation in towns. The general powers given to Municipalities as to frontage lines and the widening of streets were quite sufficient, and worked very smoothly. Then, again, if such a preposterous clause as that proposed were adopted, who was the Surveyor that he should be censor of architecture any more than that of morals? What were his qualifications for the position? He was not an architect as a rule. He (Sir Thomas) should also be very sorry indeed to see a censor of architecture appointed, although he might be a distinguished architect. If such a thing were imposed it would be to the detriment of the architectural progress of the country. He hoped there would be sufficient good sense on the part of the Corporation of Belfast not to insist upon the proposed clause, and that a pen would be drawn through it before it became a public and burning question. It would be more creditable to the common sense of this city if that clause was drawn simply on the lines of other Municipalities, and then there would be no more heard about it. If it, however, should be presented to Parliament he was sure the architects of the city would take steps to oppose it. It would be their duty to do so, and he could promise that in their opposition they would have the assistance of the Royal Institute of British Architects and of the allied societies throughout the kingdom. The Chairman proposed "Our Guests," coupled with the names of Councillor Sir Otto Jaffe, J.P., and Councillor Wheeler. Councillor Sir Otto Jaffe, in replying, referred to the meeting of the Corporation on the previous Monday, and to the Lord Mayor's statement that the principle of the Bill could be approved of, and that clauses could be altered afterwards. If at the earliest possible moment they formulated clauses they would like to have passed, the Town Clerk would only be too happy to discuss the nature of those clauses. Councillor Wheeler also responded.

BUILDING IN YORK IN 1901.—The erection of new buildings has been very brisk. Most of the houses have been erected on the new estates in Bishopthorpe-road, South Bank, Huntington-road, Leeman-road, Burton-lane, and Acomb-road. Three hundred and fifty-seven plans have been submitted during the year, of which 294 have been approved, comprising 344 houses, seventy-two warehouses, out-buildings, &c., 218 alterations and additions and redrainage to premises, six new streets and back roads, and five public buildings, as follows:—A mission-room in Haughton-street, Burton-lane; a Primitive Methodist chapel in Monkgate; a club-house, Harcourt-street, Leeman-road; one public-house; and the Grand Opera House, Clifford-street

COMPETITIONS.

BAPTIST CHURCH AND SCHOOLS, BLACKHORSE-ROAD, WALTHAMSTOW.—The competitive designs submitted by Messrs. George Baines and R. Palmer Baines, Clement's Inn, Strand, W.C., for these buildings have been adopted. The accommodation provided in the church is for 812 adults. The estimated cost, including tower, is 4,471*l.*

NEW BATHS AND LIBRARY FOR YORK-ROAD, LEEDS.—The Library and Baths Committees of the Leeds Corporation met recently to consider the plans sent in for the proposed baths and branch library, in York-road. Sixteen sets of plans (all by Leeds architects) were exhibited, and Mr. Leonard Stokes, whose award was confirmed by the Committee, acted as assessor. The recommended awards are as follows :—1st, 50*l.*, Mr. H. Ascough Chapman, A.R.I.B.A., East-parade ; 2nd, 30*l.*, Mr. W. Bakewell, Park-square; 3rd, 15*l*, Mr. Percy Robinson, Albion-street. The plans chosen provide for a building of two stories, costing some 15,000*l.* The library, which is to be built of stone and brick, will have a frontage to York-road, whilst the baths will extend down All Saints'-place at the back. The ground floor of the library is to comprise a lending-library, news-room, and ladies' room ; and on the first floor will be erected a lecture hall, boys' library, and reading-room. The lecture hall, which is intended for public meetings, forms a feature of the building. A clock and ornamental cupola also enter into the design. In addition to Russian bath, there will be the usual slipper and other baths. The swimming-bath will be 75 ft. by 30 ft.

DIARIES AND ALMANACKS FOR 1902.

"WHITAKER'S ALMANACK" for 1902, which has just been published (12, Warwick-lane, Paternoster-row), is the thirty-fourth annual issue of an indispensable work of reference which is deservedly well known for the variety and accuracy of the information it contains, and for the *multum in parvo* character of its contents. The half-crown almanack contains the 472 pages of the shilling work, and, in addition, the following amongst other information, the whole being neatly bound :—British Dominions beyond the seas, foreign countries, meteorological and astronomical summaries, brief articles on local taxation and municipal indebtedness, scientific and engineering summary, patents and inventions, the housing of the poor ; and information as to foreign weights and measures, railways of the United Kingdom and India, and a county and municipal directory of the three Kingdoms. There is, of course, a comprehensive index. This year the Almanack has been improved by being entirely reset from new type, and it is stated that in future it will be printed from specially-prepared plates.

Messrs. Hudson & Kearns (83, Southwark-street, S.E.) have sent us several of their excellent diary blotting-pads, which are well made, and are issued in several sizes. No. 8A and the Bankers' edition (7s. and 8s. respectively) are specially serviceable pads, which contain a calendar, a diary with index, and a tear-off indicator—No. 8A, although not so large as the Bankers' pad, containing, in addition, space for memoranda of appointments. No. 4, a portfolio pad, is a useful form. The same firm send us specimens of their well-known diaries, the merits of which we have frequently referred to. There are no novel features in the diaries this year, and, as they serve their purpose so well, it is not apparent that any addition or alteration would be of advantage, though we think that some of the information contained in them might be revised and extended somewhat. The works are essentially diaries and not books of professional practice with a few leaves introduced for notes. The diary space is ample and well arranged, and the printing leaves nothing to be desired. The Architect's diary is, as usual, issued in two sizes (Nos. 12 and 13, one and two pages to a day respectively), the information (including a list of cases decided in the superior courts of justice during the legal year from November, 1900, to August, 1901, collected by Mr. J. A. Shearwood), being the same in each issue. The Builders' Diary (No. 11) contains all or most of the matter to be found in the Architects' diaries, but, in addition, there are some useful tables for builders. The diary portion is arranged for two days to a page. Diary No. 9 is the Builders' Diary without the tables.

"*Knowledge* Diary and Scientific Handbook" (326, High Holborn, W.C.) has been sent to us. It is the second year of issue of a more than usually interesting work of the kind, which contains much information on scientific subjects, and which is well arranged and printed. Included in the work are articles on "An Equatorial Telescope, and How to Use It," by Mr. A. Fowler, F.R.A.S. ; "The Microscope and Its Uses," by Mr. M. I. Cross ; "Meteorology in Theory and Practice," by Mr. Arthur H. Bell ; and "The Paths of the Planets for the Year" (illustrated with maps specially prepared for the work). The diary should have a successful future. It is published at 3s. net.

"The City Diary" (W. H. & L. Collingridge, Aldersgate-street, E.C.) is now in its thirty-ninth year, and is as well got up as ever. It gives lists of the members of the Corporation, and the other bodies associated with the one square mile of the City, and a mass of information concerning municipal, social, religious, and parochial institutions. The diary proper, which is interleaved with blotting-paper, is entirely free from advertisements. The price is 1s.

The "*Mechanical World* Pocket Diary and Year Book" for 1902 (Emmott & Co., Ltd., New Bridge-street, Manchester) contains useful engineering notes, rules, tables, &c. The work, of which the present is the fifteenth yearly issue, is neatly got up, and the information it contains is kept together and placed in front of the diary proper. The diary is published at the low price of 6d.

"The Royal Navy List, Diary, and Naval Handbook" (Witherby & Co., High Holborn) is an admirably printed and arranged diary. The present issue, the fifth yearly, contains historical and statistical information respecting the Navy, its administration, strength, stations, and cost ; tables of tides and tidal constants ; astronomical notes, &c. ; and much other matter of use to naval men and others who take an interest in the Navy. The price of the handbook, which contains a portrait of Admiral Blake from the painting in Greenwich Hospital, is 3s. The diary portion is arranged for a page to a day.

"The Railway Diary and Officials' Directory" (McCorquodale & Co., Ltd., Cardington-street, Euston-square) contains much information useful to railway officials and others, including the usual information to be found in a diary, and tables for calculating salaries and wages, interest, investments, &c. The Railway Directors and Officials' Directory, Traffic Returns, Account, and Dividends section appears to be exhaustive. Included in it are the names of the various officials connected with the lines, and other information which is often in request. The almanack issued by the same firm is a useful sheet.

The issue of the "Gloucester Diary and Directors' Calendar" for 1902 is the seventh yearly issue of a handy little work. It is published for the Gloucester Railway Carriage and Wagon Co., Ltd., by Mr. Brooke, of Gloucester.

Messrs. Bemrose & Sons, Ltd. (4, Snow Hill, E.C.), have issued their useful little "monthly diary"—a separate diary for each month, suitable for carrying in the waistcoat pocket. The Shakespearean, Proverbial, and other tear-off daily calendars issued by the same firm are very neatly got up.

Messrs. Waterlow Bros. & Layton's Architects', Surveyors' and Auctioneers' Diary and Almanac for 1902 is the twenty-first yearly publication of a well-arranged and useful diary. It contains lists of Fellows and Associates of the Institute of Architects, and members of the Surveyors' Institution, the Institution of Civil Engineers, and other societies ; the London Building Act of 1894 ; a digest of the principal Acts relating to buildings, &c. ; conditions and contract on taking building land ; by-laws of the London County Council ; general conditions for building contracts ; rules for parsonage houses and for planning and fitting-up schools ; professional practice and charges of architects, &c. With all this and much other information the diary portion of the work has been necessarily curtailed, but taken altogether the diary is an excellent one.

BOOKS RECEIVED.

BUILDERS' ACCOUNTS.—By John A. Walbank, A.C.A. (Gee & Co.)

A GLIMPSE OF CRANBROOK (Homeland Association Handbooks). By W. Stanley Martin. Second Edition. (The Homeland Association.)

Correspondence.

To the Editor of THE BUILDER.

THE DIRECT EMPLOYMENT OF LABOUR.

SIR,—Again referring to Mr. Blashill's letter appearing in your issue of the 7th ult. :—In mine of the 14th I enumerate four "distinct statements" contained in his letter and ask for enlightenment. Upon reading his further letter in your issue of December 21, I see he states I have not caught his argument. I admit the soft impeachment, and even now cannot quite fathom the mystery.

Certain portions of the letters would seem to point that Mr. Blashill does not advocate the principle of "direct employment," and yet again other points and "definite statements" made would appear to dispel this view ; in any case, certain of his statements and explanations are calculated to embarrass and mislead (unintentionally, I know) many, and certainly the uninitiated.

If your readers will refer to paragraph 1, and my comment thereon (see issue of December 14) on the subject of "Yard, machinery, &c.," and then again to Mr. Blashill's last letter, they will, no doubt, observe that no enlightenment is thrown upon this matter, excepting that inadvertently Mr. Blashill refutes his former statement, *i.e.*, he says "One of my friends had such troubles as Mr. Chappell prognosticates. They might have ruined a contractor, for every job he had got would have been struck," &c.

By "such troubles" I assume he refers to those consequent upon an endeavour to get the workmen to "fix only" what I refer to as "imported goods" (*vide* my comment on paragraph 1). Now, I would point out that contractors know perfectly well that friction is likely to arise on this question, and to avoid the chance of it they cannot, as a whole, do better than manufacture or work the article themselves ; hence the "necessity of the contractor having his yard, workshop, machinery, &c." Really, it seems that Mr. Blashill's admission confounds his former statement entirely.

Again, to understand the explanation of paragraph 3—*i.e.*, "The owner with money in hand," &c.—it is first of all necessary to arrive at a fair and reasonable meaning of Mr. Blashill's words, "even the *shortest* credit." I take it that a fair construction to put upon them would be: to "pay as soon after delivery of materials (and assuming they are as per order and satisfactory) as possible." Plenty of contractors do this, and I venture to think a "Private Owner" would do no more. If, however, he did (that is to say pay before such delivery and approval) he would be dubbed "a very poor man of business," and would find few to sympathise with him were he to find himself the victim of "misplaced confidence." "Show them gold," says Mr. Blashill; yes, and one can imagine the anxiety of merchants (of a certain class) to do business on these terms. It does not follow, however, that the "Private Owner" would find he had bought on better or even equal terms with the contractor. Fancy the joinery for a building being bought under such conditions! It almost makes one's hair turn grey to think of the consequences. I instance this, as Mr. Blashill appears to assume that "ready money" is better than "even the *shortest* credit," and I maintain that, although perhaps on the face of it such may appear the case, one has to consider results.

Here is another statement in Mr. Blashill's last letter with which I cannot agree, *i.e.* :—"The owner whose money is ready must save the interest which the contractor has to pay while he is waiting for the owner's cheque." In the first place the assumption is scarcely creditable to contractors in general. Does it not rather imply that they are as a class impecunious ? I am afraid, too, were the contractor always to have to rely upon the timely receipt of the owner's cheque (a necessary preliminary to which is receipt of the architect's certificate), or, in the event of his not getting it, a loan, not only the merchants might fare badly, but the contractor also ! Business generally could not be carried on under such conditions.

The "bright and honest" manager referred to is readily to be found no doubt, but not so the "bright, honest, and *capable*" manager. By this I mean one who is fitted to assume complete control and direction of large works and the numerous intricate details connected therewith. He, I think, is a *rara avis*. How many builders know to their cost the difficulty of obtaining such an one ? We know, of course, there are such, but how many "private owners" could afford to pay the salary, &c., they can command ? And furthermore, if a builder has such difficulty in obtaining the services of such a man, with all his knowledge of the intricacies of the building business, how much more difficult for a private owner, even though assisted by his architect ? Again, a man of this character is very unlikely to take on a job of such a "casual nature." As a matter of fact, I do despond for the private owner who contemplates going in for "direct employment." One has to consider these things as a whole, not singly, and I think most will agree that "as a whole" the system would be, and so far as statistics already show is, a failure. Mr. Blas-

hill says (referring to the private owner): "His class already pays, in the shape of enhanced tenders, for all [note the 'all'] the disputes between contractors and workmen." This I dispute, and contend that many of the disputes belong to the class which he styles "uninsurable risks," which risks the contractor takes without (owing to excessive competition and, ofttimes, unfair and stringent conditions of contract) being able to put a price on the item.

'Tis true, perhaps, the contractor has to sit down helpless during strikes; assume, however, a strike is on, and that a "private owner" is able to get men for his one job—does any one imagine he would save money by this? No, I think not; the probabilities are the few men engaged, influenced by the plight of the thousands of their fellow workmen "out for airing," would not be in any great haste to finish their job, and "the cost would go on piling up." In conclusion, the heading under which this correspondence appears in your paper is "The Direct Employment of Labour," yet Mr. Blashill concludes his last letter with the astounding assertion, "In dealing with the question of direct employment, I would keep clear of labour questions." Surely in dealing with this subject one cannot reasonably disassociate the labour problem from it? GEORGE H. CHAPPELL.

FIREPROOFING MATERIALS.

THE following letter has been sent to us by the Boston Manufacturers Mutual Fire Insurance Co.; it is not, as we understand, addressed to this journal, but is a lithographed letter which has probably been sent round to a good many firms in England. We give it publication however, as it may thus come before some persons who could give useful information on the subject in hand, and who may not otherwise see it:—

"Boston Manufacturers Mutual Fire Insurance Co.,
31, Milk-street, Boston,
December 7, 1901.

DEAR SIRS,—A few months since, before my recent visit to England, I made an effort to secure materials and contributions for a thorough test of so-called fireproofing materials, floors, and the like, mainly devised for the protection of steel from heat. This effort was not sustained to any considerable extent by the promoters of various types of construction, nor by the makers of concretes. I therefore dropped the subject for the time.

On my recent visit to London, in consultation with the architects and engineers who constitute the British Fire Prevention Association, I was confirmed in my distrust of some of the materials which have been commended for the protection of iron and steel used in construction. The attention of that Association is mainly given to what is called 'fireproof construction,' not only in city buildings, but in factories and workshops as well.

Our attention has been mainly given to the slow burning construction of brick and timber, and we have not yet been called upon to deal in any large way with steel construction. In anticipation of such demand upon us it is necessary for us to know the present state of the art.

In Great Britain it is said to have been proved that many of the concretes, some of which are there called 'breeze,' of which coal ashes are the principal component material, are very destructive to iron and steel. These ashes come from coals containing a good deal of material which may cause corrosion, and the long-continued contact even of dry ashes with iron and steel beams, wire or thin plates, imbedded in them, is said to oxidize them. This may come, however, from the avidity with which ashes absorb humidity from the atmosphere, and may be attributed to that rather than to any other fault in the ashes.

Any concrete or any material containing plaster of Paris (sulphate of lime) is known to be somewhat dangerous, if not destructive, and there may be other causes of corrosion as yet unknown to us. We know of some cases in which corrosion has set in very rapidly on gas-pipes and on cribs of rails intended for foundations, owing to corrosive qualities in the concrete in which they were imbedded. We are aware that many investigations and reports have been made by the representatives of special methods, but we are not informed of any general report or conduct of tests corresponding to those now being made by the architects and engineers who have organised the Fire Prevention Association of Great Britain. We, therefore, address the following questions to you:—

1. What attention have you yet given to causes of corrosion other than ordinary humidity which may get through minute cracks in any kind of veneer or covering for steel members? In other words, what causes of corrosion have been developed in your practice other than those arising from dampness?

2. What precautions have been taken to meet this hazard?

3. What general or special information has been printed upon this subject? Who are the authorities and what printed material can be found and where?

4. What studies are you yourselves making in this matter?

5. What knowledge have you of active corrosion from dry materials coming in contact with the iron or steel frames, posts, or other members of any building, or iron used in foundations?

6. To what extent do you depend, if at all, upon angle irons, wire or sheet metal imbedded in concretes for floors or arches, for the stability of the floor after the cement or concrete has become permanently set?

I have asked these questions with the intention of making arrangements for an exhaustive study of this subject and for such tests as may be possible of each and all the various coverings now upon the market for protecting iron and steel—the concretes, the fireproof floors, and all other matters in which corrosion from any cause may be a source of danger. EDWARD ATKINSON, President."

LIVERPOOL CATHEDRAL.

SIR,—As you invite correspondence on the subject of your article on the Liverpool Cathedral Petition, I hope you will find room for the few remarks I have to make.

I have lately visited the two sites in question, and I confess I am unable to see the justice of the very strong objections you see to St. James's Mount. Both sites are good, and both have certain drawbacks, the objections to the monument site being its extreme noisiness and there being no room on it for buildings other than the cathedral itself, a point, I imagine, of some importance. The site is surrounded by electric tram-lines, with the unceasing jangling of the car bells. The petitioners seem to look on this as an advantage, but it is hardly one which will be appreciated by those who have to make actual use of the cathedral.

St. James's Mount is not on any very important thoroughfare, and it is somewhat narrow. It has also the great defect of running north and south instead of east and west. But the site in itself is a particularly fine one, and one which any architect would take delight in dealing with. It is very peculiar, as the plateau stands some 15 ft. above the flanking road. This would give a splendid effect to the principal façade, which would have a fine open space about 500 ft. in depth leading up to it. There would be ample room at the further end of the Mount for any further buildings which might be required.

This site, like the other, is very high, and the cathedral would be well seen from the river and other more distant points.

The site is very open as your plan shows, the cemetery running the whole length of it to the east, while there is ample space to the north and south. It is said not to be central, but looking at a map of the whole city it seems just as central as the monument site. The fact seems to be that by the word "central" the petitioners mean "close to St. George's Hall and the Lime-street Station." Their idea evidently is that all the great public buildings should be grouped together as closely as possible; but though this may be quite right in the case of a smaller town, it seems to me that Liverpool is amply large enough to have more than one centre of architectural interest.

The surroundings of St. James's Mount, at least to the west, are, it is true, of a mean order; but the cathedral would certainly by degrees form its own neighbourhood. Beyond the cemetery all the buildings are good.

The petitioners object to a public garden and recreation-ground being absorbed; but I am told that St. James's Mount is very little used. I spent about an hour on and about the site, and saw one young woman, one lad, two boys, and a policeman. The day, however, was cold, and the average attendance is probably greater.

Your statement that St. James's Mount in Liverpool may be compared to Bayswater in London is misleading. The site is not more than fifteen minutes' walk from St. George's Hall; and, after all, people's legs are the same length in Liverpool as they are in London.

The narrowness of the St. James's Mount site could be remedied easily by encroaching some 40 ft. on the upper terraces of the cemetery. Unhappily, there is no cure for the want of orientation, and this really is the only serious defect I can see in the site. J. OLDRID SCOTT.

2, Dean's-yard, London.

*** We particularly said that in comparing the St. James's Mount site to a site in Bayswater, we referred to the nature of the site, not to distance. In regard to Mr. Scott's closing remark, we can only conclude that he considers axial line and vista as matters of no consequence in respect of a great building. It is a curious illustration of the national English indifference to this point, that even an eminent architect should fail to recognise its importance. No French architect, we feel assured, would pass over want of central vista as being "no serious defect" in a site for an important building. —ED.

THE ELEANOR CROSS, HARDINGSTONE.

SIR,—The Eleanor Cross at Hardingstone, near Northampton, has been undergoing inspection by the Northamptonshire County Council, on the occasion of its passing into their possession.

The scaffold which has been erected will remain in position for a week or two longer, and an excellent opportunity is thus afforded for measuring the whole structure, provided the weather is not too severe.

The County Council would be glad to possess a good set of drawings, and if any student cares to take this opportunity of measuring a subject which has not yet been properly undertaken, I shall be glad if he will communicate with me as soon as possible.—Yours faithfully,

J. ALFRED GOTCH.

West Hill, Kettering.

BAPTIST CHURCH-HOUSE TENDERS.

SIR,—Considerable dissatisfaction appears to have been caused by the tendering for this building. I am informed that the bills of quantities were delivered to the builders one or two at a time during a period of about six weeks. Eventually, November 19 was fixed for opening the tenders, but these tenders were not to include the plumbers' and painters' and glaziers' bills.

The amounts of the tenders received were announced, and the two lowest were —

"A"	£32,818
"B"	32,700

The tenders for the plumbers', painters', and glaziers' bills were opened on November 22, and the two lowest amounts were:—

"B"	£2,800
"A"	2,484

making the total figures thus:—

"B"	£35,500
"A"	35,302

It seems unfortunate that the amounts of the first part of the tenders were made known to the competitors, as, curiously enough, the difference in the second tender just reverses the positions of the two lowest competitors.

WILLIAM F. KING,
President of the London Master Builders' Association.

"SUGAR IN MORTAR."

SIR,—Will any one of your correspondents inform me if, in using sugar with mortar, it is necessary to make up oftener, or does it do if made up in the ordinary way? E. YETMAN, SEN.

The Student's Column.

DRAINAGE AND PRIVATE SEWAGE-DISPOSAL.

INTRODUCTION.

IN this series of articles an attempt will be made to set forth the details of modern practice relating to drainage and private sewage disposal. A short statement of the law relating to these subjects will also be given. Sewers and public sewage-disposal works will not be considered except so far as may be necessary for purposes of comparison and illustration. The work naturally falls into three divisions—namely, Part I.—The law relating to drainage, &c.; Part II.—Drainage; and Part III.—Private Sewage-disposal. On the subject of drainage it is scarcely possible to add much to what has already appeared in recent publications, but a description of the various methods now in operation for the purification of sewage on a small scale will, it is hoped, possess greater novelty, and may prove of service to architects who are called upon to erect houses, schools, and other buildings in districts which are not served by sewers. The ideal method of sewage-disposal has not yet perhaps been discovered, but there can be little doubt that ultimate success will be attained by working on Nature's lines—that is to say, by making full use of the bacteria which have been so aptly termed "Nature's scavengers."

PART I.

THE LAW RELATING TO DRAINAGE, &c.

CHAPTER I.

England and Wales, except London.

1. *Drains and Sewers.*—The dictionary definition of a drain as "a channel through which water or other liquid flows off" is not one which can be accepted by the architect as strictly correct. A channel conveying sewage may be technically either a drain or a sewer, and lawyers have been greatly exercised in trying to define what constitutes the difference between the two. It cannot be said that they

have succeeded to any one's satisfaction but their own. Indeed, the enactments and legal decisions on this subject seem only to have made confusion worse confounded.

The definitions given in Section 4 of the Public Health Act, 1875,* are as follow :—

"DRAIN means any drain of and used for the drainage of one building only, or premises within the same curtilage, and made merely for the purpose of communicating therefrom with a cesspool or other like receptacle for drainage, or with a sewer into which the drainage of two or more buildings or premises occupied by different persons is conveyed.

SEWER includes sewers and drains of every description, except drains to which the word 'drains' interpreted as aforesaid applies, and except drains vested in or under the control of any Authority having the management of roads and not being a Local Authority under this Act."

These definitions—which apply to England and Wales, exclusive of London and of those districts where Part III. of the Public Health Acts Amendment Act, 1890, has been adopted —appear at first sight to be fairly clear and free from ambiguity, but on closer inspection they are found to be as indefinite as the most combative lawyer could desire. What is meant by "building" and by "premises within the same curtilage"? Dual or multiple occupation of a building is not always sufficient to convert it into two or more buildings within the meaning of the Act. Thus, a block of tenements may be only one "building," and the same may be said of a row of almshouses or a group of college buildings. Similarly, a pair of semi-detached houses with an approach in front common to the two houses, and a common yard in the rear, must be regarded as "premises within the same curtilage," and the common sewage-conduit from them will therefore be a drain and not a sewer. It has also been held in a rating case (Smith *v.* Seghill) that the entrance-lodge of a house is in the occupation of the master, if the entrance-gates are attached to the lodge and the occupant of the lodge is required to open the gates.

Lumley holds that a pipe conveying sewage from a house to the sea or to a river is not a drain within the meaning of the definition. What, then, is it? The popular view is that it is a drain, and this would probably be the judicial view if the point were raised in Court. There are many natural water-courses throughout the country, which, on account of their long-continued and serious pollution with sewage, have come to be accounted sewers, and the sewage-conduits leading to them from single buildings or from premises within the same curtilage are therefore drains.

The importance of being able to give a correct answer to the question—"When is a drain not a *drain*, but a *sewer?*"—will be better appreciated when it is remembered that, by Section 13 of the Act, all sewers (with certain exceptions to be hereafter stated) are vested in the local authority, and that, by Section 15, local authorities are compelled to "keep in repair all sewers belonging to them." Further, by Section 19, "every local authority shall cause the sewers belonging to them to be constructed, covered, ventilated, and kept so as not to be a nuisance or injurious to health, and to be properly cleansed and emptied." In the case of Touzeau *v.* Slough Urban District Council (1897—60 J.P., 103), the plaintiff claimed damages in consequence of outflows of sewage from a defective sewer belonging to the defendants; these outflows had compelled him to leave his house fifteen months before the expiry of his lease. It was held that he was entitled to recover from the defendants as damages (1) the expense of moving; (2) rent for the five quarters for which he was liable to his landlord; (3) an amount in respect of physical discomfort caused to him during the whole of his tenancy; and (4) the actual expense caused in connexion with illness in his family arising from the outflow of sewage.

It is commonly said that a conduit conveying sewage from one building only is a drain, and that a conduit from two or more buildings is a sewer, and this is perhaps as true a generalisation, from the definitions of the Public Health Act, 1875, as can be given in few words; but before entering upon litigation with the Local Authority, the owner of property which is let in two or more occupations and served by a common drain ought to satisfy himself that there are two or more "buildings," and not merely a group of "premises within the same curtilage." It must also be remembered that a general statement of this kind has not the authority of an Act of Parliament.

Some years ago, after the writer had carried out the sewerage of a village, the Local (Rural) Authority served notices on the owners of the houses, and compelled them to make connexions with the new sewers. Three persons owning a number of houses in a court branched their drains into a main conduit which they laid along the court to the sewer. Nothing was said about the matter until the conduit became choked. This was a nuisance, and the sanitary inspector served notices on the owners ordering them to abate it. On the writer's advice they refused, declaring the conduit to be a sewer. The Local Authority, after a little hesitation, undertook the work, and the conduit is now a sewer, and therefore always will be. For it is a legal maxim that a conduit which is once a sewer is always a sewer, so long as it remains in use.

This experience cannot, however, be regarded as a precedent likely to be followed in every case. The circumstances were particularly strong against the Local Authority, and laymen are apt to forget that the slightest difference in the facts concerning two conduits may make all the difference in the decision as to whether they are drains or sewers. Thus a yard or even an ashpit used in common by the tenants of two or more houses, even though the buildings are detached, may cause a Judge to regard the property as "premises within the same curtilage," and the common conduit from them as a drain. A public right of way between two buildings is, on the other hand, a severing factor; and, of course, a party wall, without any means of communication between the gardens, buildings, and yards on the two sides of it, has the same effect. Then, again, a cesspool receiving the discharges from the drains of two or more "buildings" is not a sewer, but if an effluent pipe is laid from it this pipe will as a rule be a sewer, although not invariably so. In the case of Swanston *v.* Twickenham Local Board the Court of Appeal decided that a manhole connected with a sewer was part of the sewer, and, therefore, vested in the Local Authority.

The whole subject bristles with difficulties, and is one for the lawyer rather than the architect, but the latter ought to have some knowledge of the subject, so that he will not undertake the repair, on behalf of a client, of a conduit which is really a sewer vested in the Local Authority. On the other hand, it is sometimes desirable, in order to reserve the right of altering the course of a conduit and to prevent the Local Authority's workmen entering upon private property, to claim that the conduit is a drain and not a sewer. In such a case the owner will be careful to cleanse and repair the conduit so that it does not become a nuisance.

By Section 15 every Local Authority is compelled not only to "keep in repair all sewers belonging to them," but also to "cause to be made such sewers as may be necessary for effectually draining their district or for the purposes of this Act." The latter part of this section should be read in connexion with Section 150, which declares that the Local Authority in an urban district may require the adjoining owners or occupiers to sewer any street within the district "not being a highway repairable by the inhabitants at large." It is a more difficult matter to define "street" than "drain" or "sewer," and we will not attempt to do so; suffice it to say that it has been taken to include in this connexion private courts and alleys as well as new streets or thoroughfares. Needless to say, the Local Authority usually takes advantage of this clause and compels the person who lays out a new street to construct a proper sewer before any buildings are erected.

2. *Combined Drains.* — Undoubtedly the definitions of "drain" and "sewer" given in the Public Health Act, 1875, are far from satisfactory. Under this Act a conduit receiving the sewage from two or more distinct buildings, must, as a rule, be regarded as a sewer, whether it is laid through private property or in a public road, and the onus of repairing it rests on the Local Authority, even though the Authority (as would be the case in many rural districts where by-laws had not been adopted) had not given consent for it to be laid, or inspected it during construction. Obviously Local Authorities regard it as a hardship that they should be compelled to keep in repair conduits which are to all intents and purposes private drains, and a new kind of drain, known as a "combined drain," was therefore defined in the Public Health Acts Amendment Act, 1890. The new definition, however, applies only to those districts where Part III. of this Act has been adopted, and only for the purposes stated in Section 19, which reads as follows :—

"1. Where two or more houses belonging to different owners are connected with a public sewer by a single private drain, an application may be made under Section 41 of the Public Health Act, 1875 (relating to complaints as to nuisances from drains), and the Council may recover any expense incurred by them in executing any works under the powers conferred on them by that section from the owners of the houses in such shares and proportions as shall be settled by their surveyor, or (in case of dispute) by a court of summary jurisdiction. 2. Such expenses may be recovered summarily, or may be declared by the Urban Authority to be private improvement expenses under the Public Health Acts, and may be recovered accordingly. 3. For the purposes of this section the expression 'drain' includes a drain used for the drainage of more than one building."

The new definition of the word "drain" embodied in this section does not, according to Glen (1895), "appear to affect the definition of 'drain' and 'sewer' in the present Act (*i.e.*, the P.H.A., 1875), or the vesting of such 'single private drains' in the Local Authority, though the section gives the Local Authority express power to recover certain expenses incurred by them in connexion with such drains from the owners of the houses." In the case of Hill *v.* Hair it was held that a certain conduit draining several houses which had been erected prior to the passing of the Public Health Act, 1848, was a sewer, notwithstanding the fact that the Corporation (Carlisle) had adopted Part III. of the Public Health Acts Amendment Act, 1890. The grounds of the decision appear to have been that the conduit was a sewer prior to 1890, and that the 1890 Act was not retrospective, and did not therefore convert it into a drain.

Mr. Justice Cave, however, in delivering judgment in the case of Seal *v.* Merthyr Tydfil Urban District Council (1897), took exception to the foregoing decision. Mr. Justice Cave's judgment is marked by common sense, although it appears to go further than the words of the 1890 Act warrant. After asking what is a "private drain" within the meaning of Section 19 of the Public Health Acts Amendment Act, 1890, he continued :—"It appears to me to apply to a drain constructed on private premises to which the public have not access. 'Private' is to be taken in that sense; that is, as being a drain which is private, and constructed on private land—on land which is not open to the public. I think, so far as Hill *v.* Hair is concerned, the law was wrongly applied there, the substantial distinction being that of a private drain kept up by a person for his own profit." He therefore held that the conduit (in Seal *v.* Merthyr Tydfil U.D.C.) was a drain; this conduit was laid through the gardens along the back of a row of houses, and could not be used for draining other premises.

The case of Lancaster *v.* Barnes District Council (1898) is interesting in this connexion. Four houses, belonging to two different owners, were served by a single private drain, which gave rise to a nuisance. The Council had adopted Part III. of the Public Health Acts Amendment Act, 1890, and under section 19 of this Act and Section 41 of the Act of 1875, called upon the two owners to relay the whole of the drain and do other prescribed works. It was held that the fact that neither owner could relay the part of the drain situate in the other's premises without committing a trespass was no objection to the validity of the notice, and that on non-compliance with the notice the local authority might execute the works, and recover the expenses from the owners under Section 19 of the Act of 1890.

It may be taken for granted that in any dispute as to whether a conduit is a private drain or a public sewer, the local authority gets the benefit of the doubt. The moral is obvious.

NEW POST OFFICE SITES.—A Bill will be introduced in the ensuing session of Parliament for empowering the Postmaster-General to acquire sites for the postal service at Alleyn Park, Dulwich, and in St. Marylebone at the junction of Barrett and Bird-streets, near Manchester-square.

* Section 2 provides that "this Act shall not extend to Scotland or Ireland, nor (save as by this Act is expressly provided) to the metropolis."

OBITUARY.

MR. ONSLOW FORD.—We greatly regret to announce the death, from pneumonia after a very short illness, on Monday, December 23, at his residence, No. 62, Acacia-road, St. John's Wood, of Mr. Edward Onslow Ford, R.A., aged forty-nine years. Mr. Onslow Ford was born on July 27, 1852. When eighteen years old he left Blackheath Proprietary School to study painting, and having entered the Royal Academy at Antwerp, he passed into the Antique School, then under the direction of M. Buffeau. He subsequently became a student, 1871-2, in the Academy at Munich, where, it appears, Professor Wagmüller guided his talents to their true course—that of modelling and sculpture. Returning to London, he became a constant exhibitor at the Royal Academy, his first accepted work being a portrait-bust of his wife, a daughter of the Baron Franz von Kreusser, whom he married at Munich in 1873. In 1885 he sent to the Royal Academy Exhibition two works that attracted considerable notice—"In Memoriam," a bas-relief of a recumbent figure guarded by cherubim (illustrated in our columns of July 4, 1885), and a seated portrait-figure of Sir Henry Irving as Hamlet, which is now in the Guildhall Art Gallery, London. In the following year he exhibited there some figures, after drawings by Mr. Westlake, for the restoration of the great screen in Winchester Cathedral, designed by the late J. D. Sedding; and in the same year he carved the busts for the façade of Prince's Hotel, Piccadilly (Mr. E. R. Robson, architect). Meanwhile he had been successful in a competition for a statue in bronze of Sir Rowland Hill, erected by the Corporation in 1882 on the eastern side of the Royal Exchange, and had produced a statue of Gladstone for the City Liberal Club. On May 7, 1887, and June 21, 1890, respectively, we illustrated Mr. Ford's "Peace," a female figure, bronzed, which he exhibited at the Salon in 1888 and the French Exhibition in the following year, and his "Music" and "Dancing," two female figures sculptured in bronze, for the Maharajah of Durbungah, Bengal. In 1888 he sent to the Glasgow Exhibition "A Dirge," a nude figure carrying a torch. Amongst his other imaginative works we should mention the two bronze statuettes—"Folly," bought for 200 gs. out of the Chantrey Bequest (a replica was in the New Gallery, 1899), and "The Singer" (1889*)—which are now in the National Gallery of British Art, Millbank; "Applause" (1893*), a female figure on a pedestal, illustrated in the *Builder*, June 10, 1893; and "Justice" and "Knowledge" (1898*), for the monument of the late Maharajah of Mysore; "Glory to the Dead," a small nude figure in bronze (1901*). His "St. George," a small figure, and "Snowdrift" are still, we believe, in his studio; that of "Echo" was in the Glasgow Exhibition of last year. Of his many works in portraiture, Mr. Onslow Ford will, perhaps, be best remembered for those he produced of Queen Victoria. Chief among them is the imposing and colossal statue of the Queen enthroned, to commemorate her Diamond Jubilee, for a site in front of the Municipal Buildings, Manchester (1901*). The others include a marble bust that he made for the Queen herself (1899*); a bust for the Royal Isle of Wight Infirmary, in the new wing opened on July 28, 1899; a bronze statue for Piccadilly, Manchester; a marble bust, for the Lord Mayor of Sheffield, 1900, who presented it to the Town Hall opened by Queen Victoria in 1897; a marble bust presented by Mr. George P. Ernest to the Lord Mayor and Corporation, which was unveiled in the Saloon, Mansion House, on November 6, 1900; the statue which he himself presented in October last to the Alexandra Palace, Muswell Hill; and a white marble bust given by Queen Victoria to Lord and Lady Cadogan during her visit to Dublin Castle in 1900. Mr. Onslow Ford executed the Shelley Memorial (1892*), a white marble figure of the poet lying upon a bronze pedestal, the gift of Lady Shelley to University College, Oxford, and placed in a sunken chamber designed by Mr. Basil Champneys; the Marlowe Memorial, Canterbury; the Gordon Memorial, Royal Engineer Barracks, Chatham, representing General Gordon riding upon a camel; the Gordon Memorial shield presented to Gordon's sister by the officers of the corps of Royal Engineers; the equestrian statue—cast with gun-metal given by the Government of India—of Field-Marshal Lord Strathnairn at Knightsbridge, 1895; and an equestrian statue of the late Maharajah of Mysore (exhibited in 1900 in the quadrangle before Burlington House*). The list extends to the Dr. Jowett monument, Balliol College Chapel, Oxford, a decorative composition (1897*), illustrated in the *Builder* of May 22, 1897; a seated figure of the late Rev. Dr. R. W. Dale for Birmingham (1898*), and a monumental bust of Dr. Dale for Mansfield College Library, Oxford, 1895; statues of Sir James Gordon, Mysore, and Sir William Pearse, Glasgow; busts of Sir John Pender for the Library, University College, London, the Rev. John Rodgers, Sir Charles Reid, the late Archbishop of York, Lieutenant-General Sir Andrew Clarke, and of his brother artists, Professor Herkomer, Mr. A. Hacker, Mr. Briton Riviere, Mr. Orchardson, and Sir John Millais; busts of the late Sir Charles Hallé (a gift of Sir William Houldsworth to Manchester), 1897; Jacob Bright, M.P., in the Town Hall, Manchester, 1898; Sir David Gamble, C.B., for the St. Helen's Technical Institute, Lancashire (the buildings were given to the townsfolk by Sir David Gamble); Alderman Whitehead (the then Lord Mayor), given to the Corporation of London by the Commercial Travellers of England, and exhibited at the Salon in 1888; W. E. Gladstone for the Union Society, Oxford University, unveiled on February 14, 1900; Sir William Agnew and Prince Leopold of Battenberg (1899*); a figure of Sir Henry Irving as Mathias in "The Bells"; a statue cast in bronze by Messrs. Rovini & Paulanti, of London, of the late Ralph Ward-Jackson, first M.P. for West Hartlepool (in Church-street, West Hartlepool); the marble statue of the late Professor Huxley, Natural History Museum, unveiled by the present King on April 28, 1890; a seated statue, in white marble, of the Duke of Norfolk, Sheffield Town Hall, set up twelve months ago; portrait busts of the Duke of Norfolk, Mr. Lewis Waller as Brutus (in bronze), Mr. Wolfram Onslow Ford, the Lord Mayor of Sheffield, and (in bronze) Mr. G. Agnew (1900*); and a medallion bas-relief, with portrait, of Lady Elliott Drake (1901*). Mr. Onslow Ford superintended the casting of the statue of Lord Lansdowne in Calcutta, 1900, for which the late Harry Bates, A.R.A., completed the model before his death, and the execution of the memorial bronze statue of Dr. Haig Brown, Master of the Charterhouse, which after Harry Bates's death was completed by his (Bates's) pupil, Mr. Henry Poole, 1900, and in that same year the execution, by Mr. F. Boucher, of the carving of the shaft, with a band of cherubim, of the font, Holy Trinity Church, Sloane-street. In June, 1899, the Gladstone Memorial Fund Committee, of Glasgow, deputed Mr. Onslow Ford, together with—we understand—Mr. Alfred Gilbert, Mr. Thornycroft, and Mr. Frampton, to prepare models of a statue for George-square in that city. In the course of the last eighteen months Mr. Ford was commissioned for the following works: a bust for the Imperial memorial to Sir George Grey in the crypt of St. Paul's; the Ruskin memorial in Westminster Abbey; a statue of the late Professor Sedgwick for the new Geological Museum, Cambridge University; a statue of the late Prince Christian Victor, who died in the course of the present South African war, to be erected at the foot of the Hundred Steps, Windsor Castle, in a canopied niche designed by Mr. A. J. Nutt, architect and clerk of the works at the Castle; and a silver statuette, for presentation to Lord Roberts, Commander-in-Chief, as a memorial of his son, Lieutenant Hon. F. Roberts, V.C., who fell in that campaign. Mr. Onslow Ford, who leaves a widow and family, was elected an Associate, R.A., in 1888, and a Royal Academician in 1895. He was recently appointed a corresponding member of the Institute of France, and had received first and second medals at Paris, Berlin (1896), Munich, &c. He was a member of the Council, Royal College of Art, for sculpture and modelling, and an examiner on modelling in the national competition of Schools of Art (1901). In February, 1900, the Duke of Devonshire, Lord President of the Board of Education, appointed him, with Mr. T. G. Jackson, R.A., Sir William Richmond, R.A., and Mr. Walter Crane, to advise the Science and Art Department upon art matters relating to art schools and classes, the Art Museum, and the Royal College of Arts; and he made the report upon sculpture for the Royal Commission of the Paris Exhibition, 1900.

* Royal Academy Exhibition.

GENERAL BUILDING NEWS.

CONGREGATIONAL CHURCH, BURY PARK, LUTON, BEDS.—The designs of Messrs. George Baines and R. Palmer Baines have been accepted for this new church. The estimated cost is 3,590*l.*, inclusive of a tower. The seating accommodation is 533 adults. The facings are of red brick and dressings of Bath stone.

PRIMITIVE METHODIST CHAPEL, LEEDS.—The Lord Mayor of Leeds (Mr. A. E. Butler) recently laid the foundation-stone of a new Primitive Methodist chapel at Woodhouse Hill. In connexion with the same enterprise, eighteen additional memorial-stones were laid on the 27th ult. The architects are Messrs. T. & C. B. Howdill, Leeds.

SCHOOLS, NORTHFLEET.—New schools have been built according to the directions of the Northfleet School Board, Northfleet. The schools are situated on a site at the corner of Old Dover-road and Springfield-road, and accommodate 520 boys and girls and 254 infants. The boys' and girls school contains eight classrooms. Four of these rooms have sliding partitions between, and can be thrown open to give one large room 56 ft. 6 in. by 46 ft. 8 in. This would accommodate about 530 people for a public meeting, &c. The infants' school contains four classrooms. Two of these rooms are separated by a revolving shutter, so that two of the classrooms can be formed into one room 58 ft. 8 in. by 24 ft. A teachers' room has been provided on the first floor over the girls' and infants entrance. There are two cloakrooms to each department and two entrances to each. The heating chamber, caretaker's cupboard and coke store, are under part of the infants' school. Under the other portion of the infants' schoolroom is placed the covered playground for the girls and infants. The schools, the foundation of which rests upon the hard chalk beds, are built of bricks. Inside are used hard wire-cut bricks, faced with red bricks, with gauged arches and Monks park-stone dressings. The roof is covered with Perfecta plain tiles. The whole schools are heated by hot-water radiators and pipes, which were supplied and fixed by Messrs. C. P. Kinnell, of Southwark-street. The ventilation appliances were supplied by Messrs. Kite, of Euston-road. The whole of the schools are lighted with gas with incandescent burners. The latrines are placed on the inside boundary wall. The whole of the drainage runs into septic tanks, and after passing through the tanks the clear effluent runs into a cesspool. The sanitary fittings were supplied by Messrs. Adams, of Westminster. The flooring of the classrooms and corridors is of pitch-pine wood-block, laid with mastic by Messrs. Lowe. The cloakrooms are of Stuart's granolithic paving. The front entrance is of terrazzo, laid by Mr. Bennett, of Broad-street. The boundary walls next the roads are low with blue Staffordshire coping, and on the top is placed a wrought-iron fence made and fixed by Messrs. Fowle, of Gravesend. The boundary walls at the back are 7 ft. high, and are of stock bricks. Between the playgrounds is placed an unclimbable fence. A caretaker's house has been built to correspond with the school buildings, providing parlour, kitchen, scullery, with usual offices, and three bedrooms. The amount of the contract for the schools and caretakers' house was 9,575*l.* The architect was Mr. S. J. Adams, of Southend, and the builders were Messrs. Multon & Wallis, Gravesend, and Mr. Nightingale was their foreman.

BUILDINGS IN AYR.—A number of buildings of a public or semi-public character are at present in course of erection, or have just been completed, in the burgh of Ayr. Chief among these is the new Town Hall, which is being reconstructed on the old site from designs by Mr. J. K. Hunter, architect, Ayr, at a cost of about 10,000*l.* A new theatre, with all modern improvements, is being erected on the site of a previous wooden structure in Carrick-street, by Mr. J. M'Hardy Young, architect, Ayr, at a cost of over 7,000*l.* The structure is of red brick, and it has been set back with a view to the eventual widening of the whole street. A new drill hall and headquarters for the 2nd Volunteer Battaliion Royal Scots Fusiliers, has been commenced at the south end of Alloway-street, from designs by Mr. James A. Morris, architect, Ayr. The drill hall, when completed, will be 96 ft. by 50 ft., and will be the largest hall in Ayr. The structure includes an armoury for 300 rifles, a gymnasium, a reading-room, a billiard-room, an officers' mess-room, a sergeants' messroom, a ladies' and gentlemen's cloakroom, artistes' room, and platform. A block of buildings is being erected in High-street for the British Linen Banking Company, whose present premises are in New-market-street. The building occupies a site nearly opposite the Union Bank of Scotland. An addition to the Ayr Corporation electric light and electric tramways station in Mill-street is nearing completion. This includes a suite of offices and committee-rooms, while the accommodation for engines and boilers has been doubled. A new church is being built in Midton-road, to be known as Trinity United Free Church. The Glasgow and South-Western Railway Co. have in hand in the vicinity of Newton-on-Ayr Station the installation of a complete set of plant for the manufacture of oil gas for the lighting of their railway carriages, to obviate the necessity of having to supply the light from Glasgow. The buildings have been completed, and the erection of the machinery and plant nearly so. The new iron railway bridge for the same company across the upper end of Ayr harbour, and giving access to the south side of the harbour and the Ayr shipyard for the first time, is being finished, and will soon be ready for traffic. A new shoe factory has been erected in the neighbourhood of Newton-on-Ayr Station, and is now in operation. In addition to these, a number of dwelling-houses, comprising villas and blocks of workmen's dwellings, are being erected in all parts of the town where there is vacant ground, and especially in the Craigie district.

BUILDING IN EDINBURGH.—Notwithstanding that there was a falling-off in the value of work passing through the Dean of Guild Court in 1900, amounting to 347,317*l.* less than the previous year, it is again to be recorded that the year just ended shows a further decrease of 199,610*l.* From the statistics of the Dean of Guild Court for 1900 the number of warrants granted, including minor warrants, reached the total of 884, of an approximate value of 829,950*l.* These warrants referred to fifty-seven villas, seventy-four self-contained houses, 225 public and other buildings, 590 alterations, eighty-two tenements containing forty-three shops, and 962 dwelling-houses. The work that passed through the Court last year represented 782 warrants, of an approximate value of 630,340*l.* These warrants embrace thirty-six villas, 126 self-contained houses, 148 public buildings, 398 alterations, fifty-six tenements of fifteen shops, and 537 dwelling-houses. There has thus been a considerable diminution on all classes of buildings

* Royal Academy Exhibition.

during the year with the exception of self-contained houses. About 57 per cent. of the tenements passed during the year still remain to be built, and a number of the buildings erected during the year form part of warrants granted during the two previous years. It is expected, however, that as there is now a time limit to the duration of the warrants a number of buildings will be proceeded with during the ensuing year. It is evident from the increase of self-contained houses that they are more in demand than houses in tenement property. In apportioning the work to the various districts for the year, and taking Newington, Grange, Blackford, and Morningside district, there have been passed and in operation during the year about sixty villas and self-contained houses and twenty-two tenements. A new feature in Blackford district has been the erection of a number of self-contained houses near Harrison Arch, and facing Blackford Avenue, the name applied being Ladysmith-road. A number of villas and self-contained houses have been built in St. Fillan's Terrace, Craiglea, and Comiston Drives, Hermitage and Cluny Drives, Corrennie Drive, Dalhousie Terrace, and Craighouse Terrace. Gorgie, Colinton, and Polwarth districts may be taken as representing the area where the largest portion of buildings passed during the last two years have not yet been erected. Notwithstanding, the work executed during the year compares favourably with that of last year. In Comely Bank, Inverleith, and Stockbridge the operations have been much the same as last year, but the preponderance of the work has been transferred from the tenements to the self-contained houses. Public and other buildings last year, more than any other for some time past, have received considerable attention, notably the Caledonian Railway Hotel, the North British Railway Hotel, and the *Scotsman* office buildings, the Municipal Buildings, additions to the Register House, premises in Rose-street, Princes-street, Frederick-street, and St. Andrew-square; addition to Heriot-Watt College, the reconstruction scheme of the United Free Church Assembly Halls, additions to Royal Infirmary, premises at Tollcross for Players' Riding School, new commercial bank at corner of Queensferry-street and Shandwick-place, and the Wesleyan Methodist Mission Hall at Tollcross. The St. Cuthbert's Co-operative Association are erecting new business premises in rear of present property. Continuing public buildings in the Merchiston and Slateford district, the largest contract is for the North British Rubber Co., Gilmore Park, on the east and west side, where opportunity has been taken of making a considerable widening of the street. Additions have been made to M'Ewan's Brewery, Fountainbridge, and there has been an addition to the North British Distillery at Slateford. In the northern district there have been one or two schemes of note, viz., the completion of the widening of Stockbridge Bridge on the east side. In Hamilton-place St. Cuthbert's Co-operative Association are erecting business premises of shops, with dwelling-houses over to the front, with manufacturing premises in rear. In Warriston-road Messrs. Waterston & Son are engaged with the erection of business premises. A place of amusement for this locality has now been furnished by the fitting-up internally of a large building in St. Stephen-street as the Tivoli Theatre. In Abbeyhill and south side districts there has been completed during the year the premises in Moray Park, and additions have been made to the premises of Messrs. Redpath, Brown, & Co, Easter-road. Excavations are in progress in London-road for large printing works between Dalziel-place and London-road United Free Church. The bonded stores at St. Leonard's, recently destroyed by fire, are being reconstructed on a very much more extensive scale, with a building of Scottish Baronial character, while a large addition is also being made to St. Leonard's Brewery. While the new United Free Church at Gorgie and St. Stephen's United Free Church have been opened during the year, there is in operation at the present time for the Established Church denomination a new church for the Dean parish, also a new church at the foot of Dalkeith-road for the Prestonfield congregation. Large additions are in progress to Merchiston Castle School, and also to the Episcopal College in Orwell-place. During the year three new schools have been erected—viz., New-street, Parson's Green, "Flora Stevenson," Comely Bank—while in Ashley-terrace, for the Merchiston district, a new school will shortly be fully equipped. Workrooms, laboratories, and cooking classrooms are being attached to many of the existing schools throughout the city. The Lord Provost and magistrates have been mindful of the housing of the working classes, no fewer than 196 houses having been erected, situate in West Port, 61; Bedford-crescent, 20; Dean-street, 18; Potter-row, 31; Pipe-street, Portobello, 66. The St. Giles' Dwelling-house Association, Ltd., having acquired the old property in Grange-court, Causewayside, are at present reconstructing the whole premises, which, when finished, will provide thirty-seven houses. A landmark, it may be recalled, has been removed in George IV. Bridge by the demolition of the County Buildings, to make room for the new and more commodious premises required for county administrative work.—*Scotsman.*

BUILDING IN GLASGOW.—Throughout the year the various trades connected with the building industry have been fairly prosperous. Early in the year the operatives connected with one of these trades submitted gracefully to a small reduction in their standard wage. Those connected with another resisted a demand made by their employers for a slight reduction, which caused a cessation of labour to some extent for some weeks in that trade. But as a large number of the employers had contracts which had to be completed to enable the premises to be occupied at the term of Whit Sunday, and as the Exhibition buildings were in the hands of a large number of the operatives of that trade, a cessation of labour at which could not be thought of in any circumstances at the time, the result was that the short struggle terminated in a nominal victory at least for the operatives, although there are too good reasons for stating that reductions in many instances have since taken place, and the standard rate in the trade is not altered. During the last two years there has not been so much dwelling-house property of the tenement class built as there was for some years previous, but a considerable amount of villa and cottage property has been built in several of our suburbs, which has been well taken up, and in many cases has changed ownership at remunerative prices to the builder, notwithstanding the high prices paid for building materials, and there are good prospects of the demand for this class of property continuing for some time yet. In that period a considerable amount of warehouse and office property has also been erected, but there are ominous indications that the supply of this class of property is at present somewhat in advance of the demand, notwithstanding there are some important contracts in this class of property in preparation. The railway extensions which have been in progress for these years, and are still going on, have had a good effect in keeping the operatives employed, and these are by no means exhausted yet, but will also employ a large number throughout the coming year. Our Corporation, as Improvement Trustees, have also some large contracts in preparation as well as in progress. Altogether considered, those engaged in those trades may look forward with hope as well as back with pleasure. As to the linings granted by the Dean of Guild Court during the year, for two years there has been a downward tendency in the number granted.—*Glasgow Herald.*

BUILDINGS FOR NEWCASTLE.—At a meeting of the Newcastle Town Improvement Committee a few days ago plans for the new Empire Theatre were presented on behalf of the Moss Theatres Co., Ltd. The building is to be erected in Newgate-street, and will take in a large amount of additional frontage in that street. The plans, as presented, were not absolutely completed, and had to be held over for another meeting for certain alterations. Plans were also submitted to the Committee for a large block of property to be built on the site of the Blackett-street Presbyterian Church, which property has been purchased by Mr. Emmerson, jun., licensed victualler. The plans show business premises on the ground floor, with cellarage beneath, and on the six floors above there will be suites of offices, to be reached by means of lifts in addition to the ordinary staircase. The Committee allowed the plans to pass.

BUILDING IN PERTH.—The number of petitions for lining presented to the Dean of Guild Court for 1901 is the smallest since 1893. The end of 1900 saw nearly all the branches of the building trade pretty well employed, but since then, owing principally to the high price of material and labour, work has become scarcer, and a considerable number of men have been paid off. Buildings in course of erection at the end of 1900 and now completed include the Central District School for the Perth School Board; Consumptive Hospital at Barnhill; and the General Accident Assurance Buildings, corner of Tay-street and High-street. The Royal Bank Buildings, in New Kinnoull-street, are not quite completed. The petitions for the year comprise sixteen of the villa type, principally in Glasgow-road and Craigie district. Tenements have passed the Guild Court for erection in Needless-road, Gowrie-street, Craigie, and Upper Craigie. The Corporation have completed the erection of the new gasworks at the Friarton and electric light station at the Shore, and are now completing the large blocks of working-class houses in Old High-street.

BUILDING IN SHEFFIELD.—Although there are evidences on every hand of a slowing down in the building trade, much business has been done in the course of the year just ending. This is shown by the fact that the Highway and Sewerage Committee had during the twelve months no less than 1,452 plans for buildings and streets laid before them as compared with 1,425 in the preceding year. The various municipal authorities—Corporation, School Board, and Sheffield Guardians—have been busy, while contractors have been kept well employed completing building operations on plots already opened. The necessity for more houses on the outskirts of the city—one result of the effective tram service to the different suburbs—was apparent, but some of the most beautiful outlying districts are undoubtedly being spoilt by the jerry-builder. So much has been said and written on this subject that it is scarcely worth while writing more upon it, but on every side it is agreed—except by the jerry-builder himself and those financing him—that it is a pity the city authorities have not greater powers in this respect. The Corporation have made considerable progress with the Crofts area during the year. A number of workmen's tenements have been erected, and some of them are already occupied. Altogether there will be two shops and 124 tenements, of which sixty-two are two-roomed tenements, letting at 5s. per week; fifty-four are three-roomed tenements at 7s. per week; and eight are one-room tenements at 3s. per week. The cost of these dwellings is estimated at 28,500*l.* The proposed model lodging-house will accommodate 380 persons, and will cost, approximately, 25,000*l.* Twenty-two cottages have also been built for working men in Hands-lane, at a cost of 5,500*l.* The rents vary from 6s. 6d. to 6s. 9d. per week, and all the dwellings are now occupied. The smallpox hospital in Crimicar-lane, Fulwood, is now nearing completion. Two large wards have been erected, one for males and the other for females, and each to be provided with twelve beds. There is also an isolation block, and there are laundries and an administrative block. The latter have been built so that they will meet the requirements of no less than eight hospital blocks, six more than are at present being erected. The City Surveyor's staff have been very busy with tramway work during the year; the reconstruction of Tinsley car-sheds, the building of a new car-shed in Queen's-road and other schemes. Near the Queen's-road shed, on the other side of the railway, and on the site of the old Olive-grove football ground, the erection is nearly finished of the first instalment of a depôt for the Highway Department. The new buildings consist of stables for about thirty horses, with hay and corn and other stores—large sheds for carts and waggons, loose horse boxes, weigh-houses, homes for the foremen, a large mess-room, and baths for the workmen. The work now in progress will cost about 12,000*l.*, but the complete scheme will be very much more expensive. Amongst other work in hand or completed by the Corporation is the destructor in Penistone-road, a twelve-cell destructor with a chimney 186 ft. high. A new bridge has been made over the River Loxley, and generally everything has been done for efficiently dealing with a large portion of the city's refuse. The cost of the scheme when complete will be about 30,000*l.* The City Surveyor is, on the instruction of the General Purposes and Parks Committee, preparing plans for a lodge and conveniences at each of the parks not so equipped in the city, and for conveniences at recreation grounds. A lodge and other buildings are being erected at the Brightside Recreation Ground. The staff working particularly under Mr. Green, the principal building inspector, have been kept fully employed during past year. In the centre of the city there have been many instances of enlargement and alteration of premises. Building has also been proceeding rapidly in many of the suburbs.—*Sheffield Telegraph.*

BUILDING IN STONEHAVEN.—The building trade has been in a fairly prosperous state during the whole year, and the builders have still sufficient work on their books to keep the usual number of hands fully employed till well into the new year.

COUNTY SCHOOL, MILFORD, AND NEW POST OFFICE, SWANSEA.—In reference to the paragraph relating to these buildings, which appeared in our last issue, we should have mentioned that the floors at the County School, Milford, have been laid with Roger Lowe's patent redwood wood-block flooring, and at the new post office, Swansea, with pitch-pine and maple flooring.

FREE CHURCH TRAINING COLLEGE, GLASGOW.—A scheme of extension has been completed in connexion with the Free Church Training College, Glasgow. The new building is of four stories to the street front, and the external walls are executed in a local white stone. Accommodation on the first floor consists of a chemical laboratory and two classrooms. Above these are the sewing and art rooms. Cloakroom and lavatory accommodation has been provided, as well as a house for the janitor, which is situated on the ground and mezzanine floors. Electric light is installed throughout, and the building is heated with hot water. There is connexion on each floor with the present College, which has been renovated and altered to provide extra accommodation, a new lunchroom and manual workshop having been added. The cost of the building is about 6,000*l.* The architects are Messrs. H. & D. Barclay, Glasgow.

SCIENCE BUILDINGS, WATFORD ENDOWED SCHOOLS.—Sir William De W. Abney, K.C.B., principal Assistant Secretary of the Board of Education (Secondary Branch), recently opened the new science buildings in connexion with the boys' side of the Endowed Schools at Watford. The completion of the science block recently made has been carried out by Mr. C. P. Ayres, the architect who designed the original buildings in 1883, the contractors being Messrs. Clifford & Gough. The new rooms comprise a lecture room, a physics laboratory, museum and balance-room, a preparation-room, and a dark room. The building is entirely on the ground floor. Its longest elevation (93 ft.) faces the Derby-road, and is in a line with the main school buildings, from which, however, it is entirely separated. The exterior of the science block is faced with Leverstock grey and red bricks, and the roofs are slated, the whole being designed to correspond with the original school buildings. Internally the walls are faced to a height of 4 ft.

with the Wortley Co.'s salt-glazed bricks, and above that height to the springing of the roofs with white Arlesey bricks. The floors throughout are laid with Roger Lowe's pitch-pine blocks, except in the museum, which is floored with Ebner's Venetian marble mosaic. The entrance from the playground opens into the museum-room and balance-room, a vestibule (37 ft. 9 in. by 11 ft.), into which open all the rooms in the building. The physics laboratory has an open-timbered roof and a floor space of 31 ft. by 27 ft. Large solidly constructed teak-topped tables accommodate twenty-six students, while fourteen other working places are provided upon slate-topped tables, supported on brick piers, and arranged round the walls under the windows. The dark-room, or optical-room (21 ft. 3 in. by 12 ft.), is entered from the physical laboratory, and is constructed under the gallery of the lecture-room. A bench is fixed along the greater length, for use in photometry and other experiments in the study of light. The lecture-room (27 ft. by 21 ft. 3 in.) has an open-timbered roof. Between the lecture-room and the chemical laboratory is the science masters' preparation-room, 21 ft. 3 in. by 10 ft. The chemical laboratory, with working benches for twenty students, and the woodwork-room, with twenty benches, complete the block. The building is heated on Stainton's medium pressure hot-water system, and lighted by electricity from the cable of the Urban District Council, the latter work having been executed by Mr. Harold Downer.

PROPOSED NEW DRILL HALL, EASTBOURNE.—It is proposed to erect a new drill hall at Eastbourne. The frontage of the new building to the road will be 80 ft. The front elevation will be of red brick with stone dressings, with green-slated roof and tower; and the front part of the ground floor of the structure will include hall and vestibule, lavatory, officers' room, orderly-room, canteen, sergeants' mess. At the back the drill hall (with access from the front hall and side) will be 100 ft. by 50 ft., and there will also be a model shed, field works store, kitchen, clothing store, and armoury. The side premises will consist of coal-shed, stable, magazine, and lavatories; and the large open parade and drill yard will be 70 ft. by 60 ft. The first floor over the front portion of the ground floor will be approached by a wide stairway. The lecture hall and recreation-room will be 50 ft. by 20 ft. Plans for the work have been prepared by Mr. A. A. Oakden, of Eastbourne.

STAINED GLASS AND DECORATION.

WINDOWS, RUBISLAW PARISH CHURCH, ABERDEEN.—Rubislaw Parish Church has been improved by the filling in of the apse windows, nine in number, with stained glass, designed and manufactured by Mr. John Whyte, Aberdeen. This church is being further improved by the introduction of electric lighting.

DENHOLME CHURCH, BRADFORD.—A stained-glass window has just been placed in this church by Mr. and Mrs. Greenwood Shackleton, of Girlington, in memory of their two sons. The subject of the window is our Lord walking on the sea, and the work was designed and executed by Messrs. Powell Bros., of Leeds.

SANITARY AND ENGINEERING NEWS.

WATERWORKS, IPSWICH.—Mr. E. A. Sandford Fawcett, A.M.Inst.C.E., Local Government Board Inspector, sat at the Town Hall, Ipswich, on the 20th ult., to inquire into an application of the Town Council for sanction to borrow 20,240*l.* for waterworks purposes—mainly in connexion with the construction of a new reservoir. Mr. Hamlet Roberts (Water-works manager and engineer) stated that the number of houses at present supplied with water from the Corporation mains was 15,350; the number in 1893 was 12,197. Building was still proceeding extensively on all sides of the borough. The source of supply was partly from gravitation, and partly from deep wells in the chalk. He measured the gravitation supplies a year or two since at about 122,000,000 gallons per annum. The quantity pumped last year was 356,613,506 gallons, being an increase of 11,221,560 gallons on the previous year. The measures of sanitation pressed on by the Public Health Committee of the borough meant a considerable increase in the water consumed. The present reservoir accommodation on the high service was about 1½ million gallons in two reservoirs. There was also a third reservoir, into which the gravitation supply flowed, on the Spring-road, capable of containing half a million gallons. When he made his last report, in April, 1901, he took the population of the borough according to the report of the Medical Officer of Health for the borough at 63,552, and the consumption gave an average of 20·63 gallons per head per day of the population, including trade and domestic supplies; but the census taken this year showed the population to be 66,622. He had for some time urged upon the committee the importance of providing increased accommodation, and with a view to that the Corporation had acquired the land immediately adjoining the present reservoirs on the Park-road, which was the highest point in the whole borough, as a site. Under the directions of the Committee, he had prepared a scheme and plans, &c., for the construction of a third high-level reservoir, capable of containing about 4,000,000 gallons.

SEWERAGE, NEWNHAM CROFT, CHESTERTON.—Messrs. Waters & Worrall, of Cambridge, have been instructed to prepare a scheme of sewerage for Newnham Croft, in the Chesterton Rural District.

PUMPING STATION, CLEVEDON WATER WORKS, SOMERSETSHIRE.—The Clevedon Water Co. have recently enlarged their undertaking, under the direction of Mr. James Mansergh, C.E. A new well has been sunk and new mains laid, and a new pumping station, designed by Mr. H. Dare Bryan, architect, Bristol, erected. The buildings comprise the engine and boiler houses, coal store and workshop, and the engineer's lodge. Local pennant stone with white pointing is used for the walls except for the lodge, which is built of a yellow magnesium limestone, the upper part being tile-hung. All the roofs are of Broseley tiles, the turrets being covered with oak shingles; the windows have Bath stone mullions and clear glass in wide lead frames. The work has been carried out by Messrs. Chancellor & Son, of Bath, under the superintendence of the architect, with Mr. W. H. Lewis, of Bristol, as clerk of works.

FOREIGN.

FRANCE.—M. Roger Ballu, Inspecteur des Beaux-Arts and son of the eminent architect of the Paris Hôtel de Ville, has been superseded in his office in consequence of having made a political speech against the Government.——The Lycée Charlemagne, at Paris, which is established in a former convent of the Jesuits in Rue St. Antoine, is to be enlarged.——The construction of a new Post-office building is to be commenced at La Rochelle.——A new monument, to the deputé Baudin, the work of M. Boverie, has just been inaugurated at the junction of the Faubourg St. Antoine and the Avenue Ledru Rollin, Paris. It is intended to erect near the same point, shortly, a monument to Boulle, the celebrated carver and furniture designer of the eighteenth century.——The historic château of Leseure, near Lodève (Hérault), has been completely destroyed by fire. It contained a valuable collection of pictures, furniture, and works of decorative art.——A second bridge is to be built over the Rhumel, at Constantine, at an estimated cost of 450,000 francs.

GERMANY.—Plans for a new police office at Wiesbaden having been submitted to the German Emperor, he has exercised his veto respecting the design, and has ordered them to be practically cancelled, suggesting a complete change throughout.——The Emperor has given permission for the erection of a monument to the late Herr Treitschke, the historian, in front of the Berlin University.——During the past year the quantity of basalt columns quarried in the Rhenish provinces has surpassed that of any previous year. They are extensively employed for engineering works, especially for protective sea-walls, docks, river works, as railway sleepers, and for general building purposes. This material is largely broken into macadam for roads, and in that connexion is also extremely useful.

GREECE.—The first national theatre erected in Greece in modern times has just been inaugurated at Athens. The building is capable of holding nearly a thousand people, and is a notable addition to the public buildings of that city. It cost about 1,000,000 fr.

AUSTRALIA.—The Committee of the fund for the erection of a memorial to her late Majesty Queen Victoria in Melbourne, Victoria, are inviting designs from sculptors for a statue of the Queen in marble or bronze. The competition closes in London on May 1, and in Melbourne on June 2 next.

INDIA.—Large station buildings are about to be erected at Puliyur, on the Southern India Railway, to take the place of temporary buildings put up when the station was opened in 1889.——A permanent bridge over the Kabul river at Nowshera is about to be constructed; the expenditure has been sanctioned, and the work will be executed under the superintendence of the Engineer-in-Chief of the North-Western Railway.——A question of some moment, but by no means new, has been raised in reference to the upkeep of State Residences in India. It is being solved by experts, who will confer with the Imperial Government and submit a Report.——An important work has recently been finished in the Prince's Dock, Bombay. New gates have been fixed of iron and steel, with greenheart heel and meter posts and sill pieces, built by the Thames Ironworks Shipbuilding and Engineering Co. They were sent from England in pieces; each leaf of the gate weighs about 96 tons, and measures 37 ft. 5 in. long by 32 ft. 6 in. high.

PROPOSED DUST DESTRUCTOR, STOKE NEWINGTON.—The Stoke Newington Borough Council propose to erect a dust destructor at the rear of the Town Hall in Milton-road. In connexion with the scheme swimming-baths are to be erected in Albion-road, and it is hoped that the heat generated in the destructor will be sufficient (or partially so) to heat the water. Much opposition is being raised to the dust destructor by the inhabitants of the district. The proposed destructor will be situated within 250 yards of the borough boundary.

MISCELLANEOUS.

PROFESSIONAL AND BUSINESS ANNOUNCEMENTS.—Mr. J. S. Gibson, architect, has removed his offices to 27A, Old Bond-street, W., where he will carry on practice in partnership with Mr. William Wallace under the style of "Wallace & Gibson."——Messrs. Young & Brown, quantity surveyors, have removed their offices from 7, Southampton-street, Bloomsbury, to 104, High Holborn, W.C.——Messrs. Drew-Bear, Perks & Co., constructional engineers, have converted their business into a limited company; Mr. Drew-Bear becomes chairman and managing director and the other parties will be directors; the management of the business will therefore be as heretofore.——Mr. W. Walford Ridley and Mr. Owen Ridley have retired from the firm of W. Ridley & Sons (timber, slate, and cement merchants, of Reading, Staines, and London). The business will be continued by Messrs. E. William Ridley, Lionel H. Ridley, Edgar O. Ridley, and Edward G. Ridley, who have been members of the firm for many years.

THE LABOUR MARKET IN THE COLONIES.—The January circulars of the Emigrants' Information Office, 31, Broadway, Westminster, state that the Report for 1900, recently issued under the Factories Act, shows that the number of factories and employees in *New South Wales* comprised within the Act both increased, and that trades were generally prosperous. In Sydney wages in many trades, as the building trade, have risen, but wage-earners complain that the cost of living is rising in greater proportion owing to the proposed new Federal tariff. The building trade is now less active than it was, but all other trades continue to be fairly well employed, and there is still some opening for general mechanics, plumbers, joiners, carpenters, and good labourers. In *Victoria* there is no general demand for more labour, but a competent mechanic has not much difficulty in finding work. In *South Australia* there is practically no demand for more mechanics in the towns, but a skilled hand, such as a mason, bricklayer, engine fitter, blacksmith, joiner, or carpenter, can generally find employment after looking about for a little. In *Queensland* it appears from the Report of the Government Labour Bureau for 1900, which has recently been issued, that, owing mainly to the scarcity of employment caused by the long drought, the general supply of labour was in excess of the demand. Reports received at the end of 1901 show that the state of the labour market in Queensland has not materially changed since that Report was issued. The Report of the Government Labour Bureau in *Western Australia* for the quarter ending September 30 last shows as follows:—There is a demand for men in the building and other trades at Northam, York, and two or three other places, but the supply of men is sufficient at Perth, Fremantle, Albany, and all other towns, while at Coolgardie, Kalgoorlie, Boulder, and Collie the supply is in some cases actually greater than the demand. In *New Zealand* the building trades have been busy almost everywhere (but not at Wellington or Dunedin), and at Invercargill bricklayers have been in demand. The engineering trade is not giving full employment to men at Dunedin and Wellington; but elsewhere it is fairly good, and in Auckland blacksmithing and boilermaking have been brisk. In *South Africa* no one is now allowed to land without a permit. This must be applied for at the Permit Office, 39, Victoria-street, London, S.W. The applicant must possess 100*l.*, or prove that he is in a position to maintain himself in South Africa. Applicants living within fifty miles of London must apply in person. These permits are no guarantee that the holders will be allowed to proceed inland. Only refugees, Government employees, and persons engaged in a service of a public nature will be permitted to proceed to the Transvaal.

SUBSIDENCES IN THE CITY.—In certain properties in Finsbury-pavement cracks have appeared, not only in upper floors but in basements. In several cases the movement has assumed, it is stated, serious proportions, and the inference is that the settlements are due to railway works beneath the thoroughfare. Surveyors acting on behalf of property-owners and the railway companies are drawing up reports on what has taken place. One of the buildings that has suffered extensively is the Moorgate-street Station of the City and South London Railway.

BUILDING EXCHANGE IN SHEFFIELD.—The master builders of Sheffield are at present engaged in erecting the first trade exchange in the city. They have secured a suitable site in Upper Charles-street, upon which they are building premises. There is to be a large hall devoted specially to the purposes of those engaged in the trade, whilst other parts of the building are to be set aside for social requirements. It is anticipated that the new premises, the cost of which will be something like 8,000*l.*, will be opened in the early part of the year. The membership will be confined to those in the building and allied trades. Following an old-established custom, the directors of the newly-formed company—consisting of prominent members of the Master Builders' Association—gave the "rearing" supper on the 19th ult., the event taking place to mark the completion of the building so far as the roof. The repast was partaken of at Sheard's Dining Saloon. Mr. J. Biggin, chairman o

directors, occupied the chair, his colleagues present being Messrs. James Longden, A. Mastin, J. D. Cooke, H. H. Hodkin, A. Bradbury, and W. J. Spink (secretary). There were also present Messrs. G. E. Powell, J. S. Teanby, J. Dawes, W. Proctor, W. H. Booth, J. C. Warring, and F. Naylor, together with some 100 workmen.—*Sheffield Telegraph.*

PUBLIC IMPROVEMENTS AT GRIMSBY.—At the Town Hall, Grimsby, on the 19th ult., Colonel Coke, Local Government Board Inspector, held four inquiries into applications of the Town Council to borrow money for improvements. The first inquiry was respecting the proposed erection of a refuse destructor, at a cost of 10,500*l.* It is proposed to erect the destructor on freehold land belonging to the Corporation, adjoining the electric lighting works in Doughty-road. The Council had provisionally accepted the tender of the Horsfall Destructor Co., of Leeds, for the plant and machinery, at 8,507*l.*, and 2,000*l.* would be required for boiler, weighing-machine, and outbuildings. The second inquiry was into the application to borrow 8,033*l.* for a proposed new park in the Clee district. It was explained that Mr. A. W. Grant-Thorold had given nine acres of land for the park, on condition that the Council enclosed it with iron railings, and made and maintained roads all round it—the cost of the latter to be borne in equal proportion by himself and the Council. The Inspector then inquired into the proposal to borrow 2,020*l.* for street improvements and for the formation of new streets; and the last inquiry was with regard to the proposed borrowing of 124*l.* for relaying sewers. There was no opposition to any of the schemes.

AMENDMENT OF THE PATENT LAWS.—It is announced, in response to resolutions passed by the Association of Chambers of Commerce of the United Kingdom at their meeting held in Nottingham last autumn, that the President of the Board of Trade has given instructions for the drafting of a Bill to give effect to the recommendations of the Committee appointed in May, 1900, with Sir Edward Fry as chairman. In our issue of May 25 last we described the general object and scope of the enquiry that had been undertaken by the Committee, and the changes which they considered could be advantageously introduced into existing procedure so as to diminish the grant of invalid patents, and to establish a system of official examination into the novelty of an invention before its final acceptance for the sealed grant of letters patent

BUILDING AFFAIRS IN WURTEMBERG.—Reviewing the trade and finances of Würtemberg for the past year, Dr. Frederick Rose, British Consul at Stuttgart, in a report to the Foreign Office, observes, with reference to the depression that made itself felt in the latter part of 1900:—"The decline in the building industries, which was without doubt partially caused by the artificial increase of the prices for building sites in and near large towns, affected in its turn those industries which are dependent upon building operations for their development, such as sheet-iron, brick and cement works, and saw-mills. In some large towns the decline of the building industries and their allied branches was productive of most serious crises, which were again further aggravated by the failure of several important mortgage banks. . . . . The great increase in the number of new buildings and streets—a sure indication of commercial prosperity—which was manifested during the four or five preceding years ceased more or less completely in 1901. The principal reason was naturally the state of commercial depression evidenced in different directions, in the general feeling of uncertainty and insecurity, in the high price of money, the fall in the values of State loans and industrial shares, and in the great difficulty experienced in obtaining money on mortgage. It seems also that the introduction of the German Imperial General Civil Code, with its new formalities and enactments, caused many difficulties. In consequence, the business effected in real estate suffered materially, being, for example, for the town of Stuttgart only 1,250,000*l*, compared with 2,550,000*l* in 1899. In spite of the decrease in building enterprise, the production and sale of bricks and tiles were fairly satisfactory for 1900, the depression making itself felt more in the manufacture of other building materials—for example, in mortar, plaster of Paris, and cement. The manufacture of cement suffered in Würtemberg in a similar degree to the rest of Germany. The majority of the cement works of South Germany have formed a trust to regulate prices, and negotiations are on foot with a view to inducing all the German manufacturers to join."

LONDON STREET LIGHTING.—It is announced that the City of Westminster Borough Council have decided, for experimental purposes, to provide some oil lamps, having a flame that burns with compressed air, which it is expected will prove to be a source of stronger light in foggy weather. Of the twenty new lamps, some will be set up in places of heavy cross traffic, including Leicester-square, Trafalgar-square, Piccadilly-circus, and Buckingham Palace-road. About eighty householders living in Portland-place have addressed a request to the Marylebone Borough Council asking that the provisional installation of the Kitson incandescent lamps lately made down the middle line of the roadway may be retained instead of electrical lighting for which the Council have obtained powers.

ST. JAMES'S CHURCH, HEREFORD.—A fire that broke out on the morning of December 23, consumed the entire interior of the building, the walls and vestry alone remaining. The church was erected in Bartonsham, for a new ecclesiastical parish taken out of St. Owen's, in 1869, after the designs of Mr. Thomas Nicholson, senior member, we believe, of the present firm of Nicholson & Son, of Hereford, at a cost of 3,200*l.* for the fabric—the tower and spire excepted. The church, constructed of stone, for 600 sittings, is cruciform on plan, with a nave, 72 ft. long, of four bays, transepts, two aisles that extend eastwards beyond the transepts for an organ-chamber and seating-room, a sacristy, and south porch. The valuable organ and a large collection of books have perished, and it is stated that the damage is only partly covered by insurance.

CAPITAL AND LABOUR.

BRISTOL BUILDING TRADE.—The Bristol Master Builders' Association have given six months' notice to reduce the wages of all employees by one penny per hour. Slackness of trade and the overflow of the labour market are assigned as the reasons, there being more men out of work than for several years past. The war has seriously affected trade, and the enhanced cost of labour and material has checked building enterprise. At present skilled workmen are receiving 9d. per hour, averaging 2*l.* per week. The builders labourers earn about 27*s.*

STONEMASONS' WAGES, BURTON.—The operative stonemasons of Burton have commenced an agitation for an increase in their rate of pay and certain other improvements in their working conditions. They have given notice to their employers accordingly. They ask for an increased pay of a penny per hour, from 8½*d.* to 9½*d.*, and for working hours in winter to be altered from 49½ to 47. On the apprenticeship arrangement, whereby one apprentice is allowed for six masons, they ask that masons' sons, hitherto exempt from consideration, shall count as an ordinary apprentice. Amongst other minor concessions is one dealing with time allowance for out of town work. An hour is allowed for three miles from the borough boundary; the men now suggest the distance shall count from the railway station.—*Nottingham Guardian.*

RECENT PATENTS:

ABSTRACTS OF PATENTED INVENTIONS.

15,650.—APPARATUS FOR SETTING SAW-TEETH: *C. McDonner.*—A base-plate and a bracket which is bolted to it constitute the frame. The edge of an anvil, which is fixed with a set-screw in a recess at the end of the plate, is bevelled at an angle to correspond with the set of the teeth. At the end of the bracket is an opening for a feathered punch, which is sustained with a spring, its end being bevelled to agree with the anvil. For taking the set out of the saw-teeth a flat anvil and punch are employed.

15,683.—A VENTILATOR: *W. Edwards.*—A baffle is placed inside a box, which is affixed to the ceiling or roof next over the lower openings through which vitiated air will escape, as conveyed by side slots to the valve-openings, and so deflected towards the outlet. Under normal conditions the flaps and valves of the openings hang perpendicularly, but a down draught will shut the valves, or they may be closed with a turn-plate.

15,696.—AN AUTOMATICAL BRAKE FOR CRANES: *H. F. Coles.*—For a travelling crane worked upon an incline a spring clutch is carried upon one of the carriage axles for engagement with and driving a band-brake disc whilst the crane travels downwards along the incline. The clutches will become disengaged whilst the carriage moves in the opposite direction.

15,720.—TREATMENT OF SEWAGE SLUDGE, &C.: *A. Bayer.*—The sludge resulting from the addition of mixed pulverised coke or charcoal, caustic lime, and zinc dust to sewage and similar effluents is pressed into cakes, from which charcoal, illuminating gas, tar, and ammoniacal water are then obtained by a process of destructive distillation, which partly recovers the lime and zinc for renewed use. The liquid part of the sewage, as treated with precipitants, is filtered through charcoal, whilst other parts may be treated with charcoal obtained by the destructive distillation of slaughter-house refuse, &c.

15,730.—AN ELECTRICAL INSULATION MATERIAL: *A. Matheson and M. Tatham.*—A compound, equally available as an electrical cement, is made by mixing sulphur with diatomite whilst melted and a hydro-carbon.

15,736.—DUMPING WAGGONS AND TIPPING CARTS: *W. O. Shadbolt.*—A rocking bar carries the springs that support the body of the waggon, and are joined to a spring bar, of which the side ends are laid in recesses in the frame; the hinged tail-board or gate is locked with pivoted latch levers set in engagement with lugs and chained to the frame, whereby, with the tipping of the body, the gate is liberated. Provision is made for regulating the dumping motion, and for the automatical opening of the gate by means of a chain joined to the frame, and pivoted levers that are chained to pivoted levers which support the gate.

15,774.—AN AUTOMATICAL FIRE ALARM: *W. Clar.*—In a battery circuit are placed a bell and an electrical lamp, and the circuit is normally broken between the spring contacts of the circuit-closer, which are joined through springs to threads which are disposed in the room, &c., for which protection is sought with their ends so fixed that the tension will keep the contacts separated. The springs are released and the alarm circuit closed by the burning of one of the threads or by its being broken with the hand if one desires to forward an alarm signal in the absence of fire. The threads are fitted with fusible connexions, in order that they may break at any given temperature, or they may be impregnated with substances that will cause them to ignite through heat only. The fusible connexions, in the form of a plug or a ring, are composed of fatty and resinous ingredients, bismuth amalgam, or other similar substances which will melt at the predetermined temperature.

15,780.—CONSTRUCTION OF ROOFS: *W. Simon.*—For sloped or flat roofs the inventor devises hollow rectangular tiles sustained with joists on girders carried by pillars and joined, end to end, with blocks or plugs internally. Mortar or cement is filled in the tile ends, and dogs or brackets secure skylights to the joists.

15,781.—A CART FOR SEWAGE: *W. Defries and V. I. Feeny.*—A vacuum is created in the tank of a sewage cart or waggon, for the process of charging, by means of a pump that draws air through a chamber wherein a disinfectant or a deodorant has been mixed with the air or sprayed. When the charging is nearly finished, a float will rise and shut a valve at the end of a suction-pipe—a pump vacuum gauge will mark the closing. Otherwise, an indicator may be raised into a glass dome above the tank with a float. The disinfectant is lifted by a supplementary pump from the container into a reservoir and thence through a pipe to a pierced nozzle in the container.

15,790.—ATTACHMENTS FOR GLAZING PURPOSES: *H. F. Hannent.*—For fastening glass sheets to the sashbars of buildings, their corners are secured with screws and nails to stepped clips or washers.

15,830.—TILES, SLABS, MOULDINGS, &C., OF IMITATION MARBLE, GRANITE, AND SO ON: *F. Tuckwell.*—A dry compound is made of white silver sand, Keene's marble cement, ground alum, with, it may be, litharge and Parian cement, and is then wetted to form a thin paste, of which slabs and tiles may be cast in shallow moulds having a bottom surface of glass or some polished metal. The backs of the tiles are coated with boiled linseed or litharge oil in order to render them damp-proof, and the slabs should be painted, stoved at 155 deg. Fahr., marbled or grained in colours, stoved at 250 deg. Fahr., varnished, and again stoved at 155 deg. Fahr., rubbed with rotten-stone, and polished with an admixture of turpentine, beeswax, and precipitated chalk. For plain colouring the articles are coated with enamel paint, stoved, and polished; coated with varnish, stoved, and then polished.

15,853.—APPARATUS FOR CRANES: *L. Bell and T. A. Bell* (*C. Bell*).—The friction-wheel on the drum-shaft will move in contact with either an auxiliary friction-wheel or a fixed brake-block. An extension from the lever that shifts the drum-shaft is joined to an arm of a shaft on which is a cam which bears against a friction-wheel, and also, as it turns in the opposite direction, against the first-named friction-wheel, for lowering the load. In another form the two wheels turn in the same direction, and are forced against the inside of the main friction-wheel, the cam being replaced with toggle levers.

15,861.—A HINGE FOR DOORS, GATES, SASHES, &C.: *F. A. Liddle.*—The flap of a sliding hinge is joined to a short tube passing through a slot in a long tube-shaped pin and sliding lengthwise in the pin which turns in sockets of the flaps, which are secured to the frame of the door or sash.

15,864.—A COUPLING FOR THE HOLDERS OF ELECTRICAL LAMPS: *W. C. C. Hawtayne.*—The coupling is intended for supporting the holders of standard lamps used for lighting streets. It has a cylindrical plug with two flattened wings which fits into a socket, which is secured to brackets on the standard or post, and is provided with channelled contact-pieces that correspond with contact-pieces of the plug fitted beneath a handle and an insulating plate.

15,884.—FASTENERS FOR WINDOW-SASHES: *W. F. Fakeman.*—Of the modifications of this contrivance one consists of a spring which is affixed to a bracket and engages with a shoulder upon the plate, or else a spring is used for forcing forwards a pivoted arm that can be pressed backwards with a lever carried by the bracket. When one opens the window the lever will be turned back by the lower sash, so that the pivoted arm can return to its normal place, and thereby be ready to secure the sashes when the window is again closed. In another adaptation a pusher, which slides in guides attached to the plate, serves to force the arm backwards.

15,890.—A COUPLING FOR ELECTRICAL WIRES: *S. Beeton and M. Barr.*—The coupling consists of a socket-piece for the one wire, which takes a conical plug upon the other wire, the parts being drawn to one another with a screw or a union, or some similar joint.

15,901.—AN ADJUSTMENT FOR WORKMEN'S AND SIMILAR SQUARES, &C.: *F. Fontanella.*—The square is constructed of three-sided plates, which are screwed together, and are mounted upon a foot or base, and its front is glazed so that one may read the index of a level, pendulum clinometer, and plumbing instrument, whereof the dial is graduated in gradient-rates and angles.

15,921.—AN ELECTRICAL CUT-OUT: *W. le R. Emmet.*—In the case of fuses employed with a high-potential current with a point of rupture within a chamber which has a gas-vent for expulsion of the arc, a chamber is formed with recesses cut in two blocks of some insulating material, and the ends of the fuse-wire (which is put into the chamber) are connected to arms that are governed with springs, and will move outwards with the melting of the fuse, and thereby lengthen the arc. A vent-hole is made in the outer block, which is clamped to the inner block with a plate and screw-caps upon spring-arms; plug contacts make connexion with the leads. The recess has paper or similar capsules that may be wetted with a gas-producing material when the arc passes, and the blocks are protected with covers and side-plates.

15,932.—MEANS OF JOINING THE LENGTHS OF CONCRETE PILES: *G. L. Mouchel.*—Near the upper end of the lowest length of a hollowed concrete and metal pile (for which see No. 4,548 of 1900) are fitted pierced diaphragms so arranged that the upper one constitutes the base of a cavity at the end of the length of the pile; in the lower end of the length next above is made a similar cavity; thus the second length can be secured to the other by means of a concrete and metal core inserted into the cavities. When the lowest pile has been driven into its place, an extension from the core, of which the broken ribs fit the cavities, projects through the two diaphragms; and for further security of the two lengths are added a metal collar and forked metal rods to be embedded in quickly setting cement and forced down the pipe. For solid concrete piles having embedded metal skeletons the rods are caused to extend beyond the lower end of each length and to enter tubes that are embedded in the upper end of the next length below, in order to join the several skeletons to one another as the lengths are successively placed in position.

15,966.—APPLIANCE FOR TESTING GAS AND OTHER PIPES: *P. Kowalsky.*—The apparatus comprises a reservoir, of which an inlet cock regulates a current of air from an air-pump or squeegee-ball, and the outlet valve communicates with a union joined to the gas or other pipe and to a pipe fitted with a valve and with a pressure-gauge. The gauge should be formed of a U-shaped tube which, being filled in part with water, indicates leakage, of which the position may be discovered by pouring oil through an aperture that may be closed with a plug into a space underneath a pierced partition set in the reservoir and blowing air through a pipe into the oil. The vapour escapes out of the gas-pipe at the leak, which can be then detected with a flame, the vaporisation being aided with a wick mounted in a forked wire.

16,024.—A COMPOUND FOR MAKING REFRACTORY BRICKS, &C.: *W. S. Rawson and R. D. Littlefield.*—A mixture for moulded and baked bricks, crucibles, retorts, and so on, and also for the bottoms and linings of furnaces, is made up of calcined magnesite or magnesium oxide and a small part of a fusible boron, to which water is added.

MEETINGS.

FRIDAY, JANUARY 3.

Architectural Association.—Mr. J. A. Gotch on "The Development of Domestic Architecture from the Twelfth to the Eighteenth Century," illustrated by lantern views. 7.30 p.m.

SATURDAY, JANUARY 4.

British Institute of Certified Carpenters.—Monthly meeting at Carpenters' Hall. 6 p.m.

Sanitary Inspectors' Association.—New Year's Address by the President, Sir James Crichton Browne. 6 p.m.

MONDAY, JANUARY 6.

Royal Institute of British Architects.—Dr. A. S. Murray on "Two Ionic Capitals in the British Museum," illustrated by lantern slides. 8 p.m.

Liverpool Architectural Society.—Mr. James Parkinson on "Old English Cottages," illustrated by limelight views. 6 p.m.

TUESDAY, JANUARY 7.

Cardiff, South Wales, and Monmouthshire Architects' Society.—Paper by Mr. J. H. Phillips. 8 p.m.

THURSDAY, JANUARY 9.

Institution of Electrical Engineers.—Discussion of the Technical Reports on the Institution Visit to Germany, 1901, by the Committees on Traction, Light, and Power; Manufacturing, and Telegraphs and Telephones. 8 p.m.

Sheffield Society of Architects and Surveyors.—Mr. W. Watts on "Concrete and its Use."

Manchester Society of Architects.—(1) Special General Meeting for the purpose of Electing a Fellow and an Associate; (2) Mr. J. D. Crace on "Relation of Colour to Architecture." 6.45 p.m.

FRIDAY, JANUARY 10.

Architectural Association, Discussion Section.—Mr. P. W. Mulready on "The Work and Influence of Augustus Welby Pugin." 7.30 p.m.

Glasgow Architectural Craftsmen's Society.—Mr. A. B. M'Donald, M.Inst.C.E., on "The Highlands of Central Europe." 8 p.m.

Birmingham Architectural Association.—Mr. John Ward on "Pictures from Penzance and the Land's End."

SATURDAY, JANUARY 11.

Dundee Institute of Architecture.—7 p.m.

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

	£	s.	d.	
Hard Stocks	1	12	0	per 1,000 alongside, in river.
Rough Stocks and Grizzles	1	10	0	,, ,, ,,
Facing Stocks	2	12	0	,, ,, ,,
Shippers	2	8	0	,, ,, ,,
Flettons	1	8	0	,, at railway depôt.
Red Wire Cuts ..	1	12	0	,, ,, ,,
Best Fareham Red	3	11	0	,, ,, ,,
Best Red Pressed Ruabon Facing.	5	5	0	,, ,, ,,
Best Blue Pressed Staffordshire ..	4	6	6	,, ,, ,,
Do., Bullnose	4	10	0	,, ,, ,,
Best Stourbridge Fire Bricks	4	4	0	,, ,, ,,
GLAZED BRICKS.				
Best White and Ivory Glazed Stretchers.....	13	0	0	,, ,, ,,
Headers	12	0	0	,, ,, ,,
Quoins, Bullnose, and Flats	17	0	0	,, ,, ,,
Double Stretchers	10	0	0	,, ,, ,,
Double Headers..	16	0	0	,, ,, ,,
One Side and two Ends	19	0	0	,, ,, ,,
Two Sides and one End	20	0	0	,, ,, ,,
Splays, Chamfered, Squints.....	20	0	0	,, ,, ,,
Best Dipped Salt Glazed Stretchers and Headers ..	12	0	0	,, ,, ,,
Quoins, Bullnose, and Flats	14	0	0	,, ,, ,,
Double Stretchers	15	0	0	,, ,, ,,
Double Headers..	14	0	0	,, ,, ,,
One Side and two Ends	15	0	0	,, ,, ,,
Two Sides and one End	15	0	0	,, ,, ,,
Splays, Chamfered, Squints.....	14	0	0	,, ,, ,,
Seconds Quality White and Dipped Salt Glazed	2	0	0	,, less than best.

	£	s.	d.	
Thames and Pit Sand		7	3	per yard, delivered.
Thames Ballast		6	0	,, ,,
Best Portland Cement	32	0		per ton, delivered.
Best Ground Blue Lias Lime..	25	0		,, ,,

NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime..... 11s. 6d. per yard, delivered.
Stourbridge Fire-clay in sacks, 28s. cd. per ton at rly. dpt.

STONE.

	s.	d.	
Ancaster in blocks	1	11	per ft. cube, deld. rly. depôt.
Bath ,, ...	1	7	,, ,,
Farleigh Down Bath ..	1	8	,, ,,
Beer in blocks	1	6½	,, ,,
Grinshill ,, ...	1	10	,, ,,
Brown Portland in blocks	2	2	,, ,,
Darley Dale in blocks..	2	4	,, ,,
Red Corsehill ,,	2	5	,, ,,
Red Mansfield ,,	2	4	,, ,,
Hard York in blocks ..	2	10	,, ,,
Hard York 6 in. sawn both sides landings, to sizes (under 40 ft. sup)	2	8	per ft. super. at rly. depôt.
,, ,, 6 in. Rubbed Ditto..	3	0	,, ,,
,, ,, 5 in. sawn both sides slabs (random sizes)	1	3	,, ,,
,, ,, 2 in. self-faced Ditto	0	9½	,, ,,
Hopton Wood (Hard Bed) in blocks	2	3	per ft. cube. deld. rly. depôt.
,, ,, ,, 6 in. sawn both sides landings	2	7	per ft. super. deld. rly. depôt.
,, ,, ,, 3 in. do.	1	2½	,, ,,

SLATES.

in.	in.	£	s.	d.	
20×10	best blue Bangor..	11	5	0	per 1000 of 1200 at rly. dep.
,,	best seconds ,,	10	15	0	,, ,,
16× 8	best ,,	6	2	6	,, ,,
20×10	best blue Portmadoc	10	18	0	,, ,,
16×8	best blue Portmadoc	6	0	0	,, ,,
20×10	best Eureka unfading green....	11	2	6	,, ,,
16× 8	,, ,,	6	15	0	,, ,,
20×10	permanent green	10	0	0	,, ,,
16×8	,, ,,	5	12	6	,, ,,

PRICES CURRENT (*Continued*).

TILES.

	s.	d.	
Best plain red roofing tiles..	41	6	per 1,000, at rly. depôt.
Hip and valley tiles....	3	7	per doz. ,, ,,
Best Broseley tiles	48	6	per 1,000 ,, ,,
Hip and valley tiles....	4	0	per doz. ,, ,,
Best Ruabon Red, brown or brindled Do. (Edwards)	57	6	per 1,000 ,, ,,
Do. ornamental Do.	60	0	,, ,, ,,
Hip tiles	4	0	per doz. ,, ,,
Valley tiles	3	9	,, ,, ,,
Best Red or Mottled Staffordshire Do. (Peakes) .	50	9	per 1,000 ,, ,,
Hip tiles	4	1	per doz. ,, ,,
Valley tiles.....	3	8	,, ,, ,,

WOOD.

BUILDING WOOD.—YELLOW.

	At per standard. £	s.	d.	£	s.	d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.....	13	10	0	15	10	0
Deals: best 3 by 9.....	13	0	0	14	10	0
Battens: best 2½ in. by 7 in. and 8 in., and 3 in. by 7 in. and 8 in.....	10	0	0	11	0	0
Battens: best 2½ by 6 and 3 by 6 ..	0	10	0	less than 7 in. and 8 in.		
Deals: seconds	1	0	0	less than best		
Battens: seconds	0	10	0	,, ,, ,,		
2 in. by 4 in. and 2 in. by 6 in. .	8	10	0	9	10	0
2 in. by 4½ in. and 2 in by 5 in. ..	8	0	0	9	0	0
Foreign Sawn Boards—						
1 in. by 1½ in. by 1½ in.	0	10	0	more than battens.		
¾ in.	1	0	0	,,		
Fir timber: Best middling Danzig or Memel (average specification)	At per load of 50 ft. 4	10	0	5	0	0
Seconds	4	5	0	4	10	0
Small timber (8 in. to 10 in.)	3	12	6	3	15	0
Swedish balks.....	2	15	0	3	0	0
Pitch-pine timber (30 ft.).....	3	0	0	3	10	0
JOINERS' WOOD.	At per standard.					
White Sea: First yellow deals, 3 in. by 11 in.	22	0	0	23	0	0
3 in. by 9 in.	20	0	0	21	0	0
Battens, 2½ in. and 3 in. by 7 in.	15	0	0	16	0	0
Second yellow deals, 3 in. by 11 in.	17	0	0	18	0	0
,, ,, 3 in. by 9 in.	15	10	0	16	10	0
Battens, 2½ in. and 3 in. by 7 in.	12	0	0	13	0	0
Third yellow deals, 3 in. by 11 in. and 9 in.	12	10	0	13	10	0
Battens, 2½ in. and 3 in. by 7 in.	10	10	0	11	10	0
Petersburg: first yellow deals, 3 in. by 11 in.	19	0	0	20	0	0
Do. 3 in. by 9 in.	16	0	0	17	0	0
Battens.....	12	10	0	13	0	0
Second yellow deals, 3 in. by 11 in.....	14	0	0	15	0	0
Do. 3 in. by 9 in.	13	0	0	14	0	0
Battens.....	11	0	0	12	0	0
Third yellow deals, 3 in. by 11 in.....	11	10	0	12	10	0
Do. 3 in. by 9 in.	11	0	0	12	0	0
Battens.....	10	0	0	11	0	0
White Sea and Petersburg:—						
First white deals, 3 in. by 11 in.	13	10	0	14	10	0
,, ,, ,, 3 in. by 9 in.	12	10	0	13	0	0
Battens.....	10	10	0	11	10	0
Second white deals 3 in. by 11 in.	12	10	0	13	10	0
,, ,, ,, 3 in. by 9 in.	12	0	0	12	10	0
,, ,, ,, battens.....	9	10	0	10	10	0
Pitch-pine: deals	16	0	0	18	0	0
Under 2 in. thick extra	0	10	0	1	0	0
Yellow Pine—First, regular sizes..	32	0	0	33	10	0
Broads (12 in. and up).....	2	0	0	more.		
Oddments	22	0	0	24	0	0
Seconds, regular sizes	24	10	0	26	10	0
Yellow Pine Oddments	20	0	0	22	0	0
Kauri Pine—Planks, per ft. cube..	0	3	6	0	4	6
Danzig and Stettin Oak Logs—						
Large, per ft. cube	0	2	6	0	3	0
Small ,, ,, ...	0	2	3	0	2	6
Wainscot Oak Logs, per ft. cube ..	0	5	0	0	5	6
Dry Wainscot Oak, per ft. sup. as inch	0	0	8	0	0	7
¾ in. do. do.	0	0	7	-	-	-
Dry Mahogany—						
Honduras, Tabasco, per ft. sup. as inch	0	0	9	0	0	11
Selected, Figury, per ft. sup. as inch	0	1	6	0	2	0
Dry Walnut, American, per ft sup. as inch	0	0	10	0	1	0
Teak, per load	16	0	0	20	0	0
American Whitewood Planks—						
Per ft. cube.....	0	3	0	0	3	6
Prepared Flooring—	Per square.					
1 in. by 7 in. yellow, planed and shot	0	13	0	0	16	6
1 in. by 7 in. yellow, planed and matched	0	13	6	0	17	6
1¼ in. by 7 in. yellow, planed and matched	0	15	0	1	0	0
6 in. at 6d. per square less than 7 in.						
1 in. by 7 in. white, planed and shot	0	11	0	0	12	6
1 in. by 7 in. white, planed and matched	0	11	6	0	13	6
1¼ in. by 7 in. white, planed and matched	0	13	6	0	15	6
6 in. at 6d. per square less than 7 in.						

JOISTS, GIRDERS, &c.

	In London, or delivered Railway Vans, per ton. £	s.	d.	£	s.	d.
Rolled Steel Joists, ordinary sections	6	5	0	7	5	0
Compound Girders ,, ,,	8	0	0	9	0	0
Angles, Tees and Channels, ordinary sections	8	2	6	9	2	6
Flitch Plates	8	10	0	0	0	0
Cast Iron Columns and Stanchions, including ordinary patterns	7	0	0	8	0	0

METALS.

	Per ton, in London. £	s.	d.	£	s.	d.
IRON—						
Common Bars.....	8	0	0	8	10	0
Staffordshire Crown Bars, good merchant quality	8	10	0	9	0	0
Staffordshire "Marked Bars" ..	10	10	0	-	-	-
Mild Steel Bars.....	9	0	0	9	10	0

[See page 27

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

(For some Contracts, &c., still open, but not included in this List, see previous issues.)

COMPETITIONS.

Nature of Work.	By whom Required.	Premiums.	Designs to be delivered
Schools	Kirkcaldy (N.B.) School Board	Not stated	Jan. 15
Art Schools	Hull Corporation	100*l.*, 60*l.*, 40*l.*	Jan. 31
*Plans for Rebuilding Institution	Liverpool Infirmary Committee	Four Premiums of 50*l.*	do.
*New Club House	Royal Norfolk & Suffolk Yacht C	25*l.*, 20*l.*, 15*l.*	No date
*New Buildings at Langho, near Blackburn	Chorlton, &c., Jt. Asylums Com	200*l.*, 150*l.* and 100*l.*	April 4

CONTRACTS.

Nature of Work or Materials.	By whom Advertised.	Forms of Tender, &c, Supplied by	Tenders to be delivered
Surveyor's Materials	Sheffield Corporation	A. L. C. Fell, Engineer, Town Hall, Sheffield	Jan. 7
Chapel, North Burton, Bridlington	.....	S. Dyer, Architect, Quay-road, Bridlington	do.
Water Main (12½ miles) Stannington	Tynemouth Corporation	J. Mansergh, Engineer, 5, Victoria-street, S.W.	do.
Pipe Laying (25 miles)	Manchester Corporation	G. H. Hill & Sons, Civil Engineers, Victoria-street, S.W.	do.
Road Works, South Norwood	Croydon Town Council	Borough Surveyor, Town Hall, Croydon	do.
Flags	Soothill Nether District Council	W. Scholefield, Wellington-road, Dewsbury	do.
Sewer, Hollybrook, Shirley	Southampton Corporation	R. R. Linthorne, Municipal Offices, Southampton	do.
Street Improvement Works, Duffryn-street	Mountain Ash (Glam.) R.D.C.	Surveyor, Mountain Ash	do.
Street Works, Spring-terrace, North Shields	Tynemouth Corporation	J. F. Smillie, Surveyor, Tynemouth	do.
Sewage Disposal Works, Pant	Wrexham R.D.C.	J. Price Evans, Engineer, Argyle Chambers, Wrexham	Jan. 8
Sanitary Pipes, Cement, &c.	Keighley Corporation	Borough Surveyor, Town Holl, Keighley	do.
Pavilion, Exeter	.....	E. H. Harbottle & Son, Architects, Exeter	do.
Concrete Flagging (706 sq. yds.)	Leeds City Council	City Engineer, Municipal Buildings, Leeds	do.
Purifying Lime, Bushey	Watford Gas Company	Manager, Gas Company's Offices, Watford	do.
Pipes	Kirkcaldy (N.B.) Corporation	Kennedy & Jenkin, Engineers, 17, Victoria-street, S.W.	do.
Alterations to Bulkeley Arms Hotel, Menai Bridge	Amlwch Brewery Company, Ltd.	R. G. Thomas, Architect, Menai Bridge	do.
Additions to Gasworks	Wokingham Corporation	A. E. Sidford, Architect, Wokingham	do.
Road Works	Twickenham U.D.C.	F. W. Pearce, Surveyor, Town Hall, Twickenham	do.
Cricket Pavilion, Exeter	.....	E. H Harbottle & Son, Architects, Exeter	do.
*New Cells and Cubicles, Alton Police Station	Southampton Corporation	County Surveyor, The Castle, Winchester	do.
*Rendering Baths Watertight & Reconstructing Drain	Hampstead Council	Borough Engineer, Town Hall, Hampstead	Jan. 9
Road Works, Bute-street	Cardiff Corporation	W. Harpur, Civil Engineer, Cardiff	do.
Cottage Homes, Aberdare	Merthyr Tydfil Guardians	T. Roderick, Architect, Aberdare	do.
Heating Works, St. John's Home	Ipswich Guardians	A. F. Vulliamy, 19, Tower-street, Ipswich	do.
Chapel and School, Carleton, near Skipton	.....	J. Hartley, Architect, Skipton	do.
Street Improvement Works	Castleford (Yorks) U.D.C.	W. Green, Surveyor, Castleford	do.
Steel Tramway Rails, &c.	Huddersfield Corporation	Borough Engineer, 1, Peel-street, Huddersfield	Jan. 10
Chilled Blocks (300 tons)	do.	do.	do.
Sewerage Works, Upholland Moor	Upholland (Lancs) U.D.C.	C. E. Senior, Surveyor, Council Offices, Upholland	do.
Waterworks, Winchburgh	Linlithgow District Committee	W. A. Tait, Engineer, 72A, George-street, Edinburgh	do.
Street Works, Gaskell-street, &c.	Runcorn R.D.C.	R. Garnett, Surveyor, 45, Sankey-street, Warrington	Jan. 11
Granite Setts	Leigh (Lancs) Corporation	T. Hunter, Borough Engineer, Leigh	do.
Additions to Schools, Westmoor, &c.	Long Benton School Board	Oliver & Co, Architects, Mosley-street, Newcastle-on-Tyne	do.
Sewers, Swinton, near Manchester	.....	Surveyor, Council Offices, Swinton	do.
*Tar Paving and Gravelling, &c., Little Ealing	Metropolitan Asylums Board	Board's Offices, Embankment, E.C.	do.
Sewerage Works, Polsloe Priory	Heavitree (Devon) U.D.C.	F. E. Simpson, Surveyor, Council Offices, Heavitree	Jan. 13
Structural Steelwork, Bilston	British Electric Traction Company	Engineer, 194, Wolverhampton-street, Dudley	do.
Sewerage Works, Station-road, Cullingworth	Bingley (Yorks) U.D.C.	H. Bottomley, Surveyor, Town Hall, Bingley	do.
Iron and Steel Substructures, &c.	Burnham (Somerset) U.D.C.	W. J. Press, Surveyor, Council Offices, Burnham	do.
Corn Exchange, Woodbridge-road	Guildford Town Council	C. G. Mason, C.E., Borough Surveyor, Guildford	do.
*Making-up Russell-rd. Herbert-rd. &c., West Hendon	Hendon U.D.C.	S. Slater, Grimley Public Offices, Hendon, N.W.	do.
*Paving Materials	Metropolitan Borough of Stepney	M. W. Jameson, 15, Great Alie-street, Whitechapel, E.	do.
*Wheelwrights' and other Materials	do.	do.	do.
*Ballast, Sand, Shingle, Hoggin and Flints	do.	do.	do.
*Supplying and Fixing Hurdles, &c., at Camberwell	London County Council	Parks Department, 11, Regent-street, S.W.	do.
Cottage, &c., Clontail, Ireland	Ardee (No. 2) R.D.C.	L. Turley, C.E., 17, Laurence-street, Drogheda	Jan. 14
Retorts, Firebricks, &c.	Bury (Lancs) Corporation	H. Simmonds, Engineer, Gasworks, Elton, Bury	do.
*Erection 436 rods, Park, Pale and other Fencing	Metropolitan Asylums Board	Newman & Newman, 31, Tooley-street, S.E.	do.
Sheds	Derby Corporation	J. Ward, Borough Surveyor, Babington-lane, Derby	do.
Well Sinking	Armagh R.D.C.	W. Calvert, Workhouse, Armagh	do.
Fireclay Pipes, Setts, &c.	Lancaster Corporation	Borough Surveyor, Town Hall Lancaster	Jan. 15
*Taking-up and Relaying Flooring	Hackney Union	Guardians' Offices, Sidney-road, Homerton, N.E.	do.
*Sewage Works	Buckhurst Hill U.D.C.	H. Tooley, Architect, Buckhurst Hill	do.
Electricity Buildings, Castle-street	Barnstaple Town Council	A. Thorne, Borough Surveyor, Town Hall, Barnstaple	Jan. 16
*Additions, Drainage, Repairs, &c.	Greenwich Union	T. Dinwiddy, Architect, 12, Croom's Hill, Greenwich, S.E.	do.
Sewage Tank, Willenhall-road, Bloxwich	Walsall Corporation	Borough Surveyor, Bridge-street, Walsall	Jan. 18
Extension of Electricity Plant	Grimsby Corporation	W. A. Vignoles, Engineer, Grimsby	Jan. 20
Fireclay Goods	Nelson (Lancs) Corporation	A. J. Hope, Engineer, Gasworks, Nelson	do.
Street Works	Batley (Yorks) Town Council	O. J. Kirby, Borough Surveyor, Batley	do.
Extension of Electricity Works	Middlesbrough Corporation	R. Hammond, C.E., 64, Victoria-street, S.W.	Jan. 21
*Enlargement of Head Post Office, Norwich	Commissioners of H.M. Works, &c.	The Secretary, H.M. Office of Works, Storey's Gate, S.W.	Jan. 23
Electricity Generating Plant	Barking (Essex) U.D.C.	E. H. Lister, Public Offices, Barking	Jan. 24
Public Baths, Lister Drive, West Derby	Liverpool Corporation	W. R. Court, Engineer, Municipal Offices, Liverpool	Jan. 27
Cottage Homes, Styal, Cheshire	Chorlton Guardians	J. B. Broadbent, Architect, 15, Cooper-street, Manchester	Jan. 30
Water Works	Paignton (Devon) U.D.C.	F. W. Vanstone, Engineer, Palace Chambers, Paignton	Jan. 31
Alterations to Premises, Jarratt-street	Kingston-upon-Hull Co-op. Soc.	T. B. Thompson, Architect, 15, Parliament-street, Hull	No date
House, Hest Bank, Lancaster	.....	W. J. Taylor, Architect, Bank-street, Sheffield	do.
Bank House, Banchory, Aberdeen	Town and County Bank, Ltd.	R. G. Wilson, Architect, Aberdeen	do.
Church, Schools and House, Amble	.....	T. E. Davidson, Architect, 14, Neville-street, Newcastle	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Application to be in
*Clerk of Works	Longtown R.D.C.	Not stated	Jan. 13
*Assistant Surveyor	Bindley U.D.C.	Not stated	do.
*Manual Training Instructors & Assistant Instructors	School Board for London	100*l.* to 155*l.*, and 80*l.* to 100*l.*	No date

Those marked with an asterisk (*) are advertised in this Number. Competitions, p. iv. *Contracts, pp.* iv. vi. viii x *&* xxxii. *Public Appointments, pp.* xxix *&* xxxii.

PRICES CURRENT (*Continued*).

METALS.

IRON—	Per ton, in London.					
Hoop Iron, basis price	9	5	0	9	15	0
,, ,, galvanised	16	0	0	-	-	-
(* And upwards, according to size and gauge.)						
Sheet Iron, Black.—						
Ordinary sizes to 20 g.	10	0	0	-	-	-
,, ,, to 24 g.	11	0	0	-	-	-
,, ,, to 26 g.	12	10	0	-	-	-
Sheet Iron, Galvanised, flat, ordinary quality.—						
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	12	10	0	-	-	-
,, ,, 22 g. and 24 g.	13	0	0	-	-	-
,, ,, 26 g.	14	0	0	-	-	-
Sheet Iron, Galvanised, flat, best quality :—						
Ordinary sizes to 20 g.	16	10	0	-	-	-
,, ,, 22 g. and 24 g.	17	0	0	-	-	-
,, ,, 26 g.	18	10	0	-	-	-
Galvanised Corrugated Sheets.—						
Ordinary sizes, 6 ft. to 8 ft. 20 g.	12	10	0	-	-	-
,, ,, 22 g. and 24 g.	13	0	0	-	-	-
,, ,, 26 g.	14	0	0	-	-	-
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. by 20 g. and thicker	12	5	0	-	-	-
,, ,, 22 g. and 24 g.	13	5	0	-	-	-
,, ,, 26 g.	14	5	0	-	-	-
Cut nails, 3 in. to 6 in.	9	10	0	10	0	0
(Under 3 in. usual trade extras.)						

LEAD, &c.

	Per ton, in London.					
	£	s.	d.	£	s.	d.
LEAD—Sheet, English, 3 lbs. & up.	13	5	0	-	-	-
Pipe in coils	13	15	0	-	-	-
Soil Pipe	16	5	0	-	-	-
ZINC—Sheet—						
Vieille Montagne ton	24	10	0	-	-	-
Silesian	24	0	0	-	-	-
COPPER—						
Strong Sheet per lb.	0	1	0	-	-	-
Thin ,,	0	1	1½	-	-	-
Copper nails ,,	0	1	1½	-	-	-
BRASS—						
Strong Sheet ,,	0	0	11	-	-	-
Thin ,,	0	1	1	-	-	-
TIN—English Ingots ,,	0	1	3	-	-	-
SOLDER—Plumbers' ,,	0	0	6½	-	-	-
Tinmen's ,,	0	0	8	-	-	-
Blowpipe ,,	0	0	9	-	-	-

ENGLISH SHEET GLASS IN CRATES.

15 oz. thirds	2¾d. per ft. delivered.
,, fourths	2½d. ,, ,,
21 oz. thirds	3¼d. ,, ,,
,, fourths	3½d. ,, ,,
26 oz. thirds	4¾d. ,, ,,
,, fourths	4½d. ,, ,,
32 oz. thirds	5½d. ,, ,,
,, fourths	5¼d. ,, ,,
Fluted sheet, 15 oz.	3¼d. ,, ,,
,, 21 ,,	4¼d. ,, ,,
⅛ Hartley's Rolled Plate	2¾d. ,, ,,
3/16 ,, ,, ,,	3¼d. ,, ,,
¼ ,, ,, ,,	3¾d. ,, ,,

OILS, &c.

		£	s.	d.
Raw Linseed Oil in pipes	per gallon	0	2	10
,, ,, ,, in barrels	,,	0	2	11
,, ,, ,, in drums	,,	0	3	1
Boiled ,, ,, in pipes	,,	0	3	0
,, ,, ,, in barrels	,,	0	3	1
,, ,, ,, in drums	,,	0	3	3
Turpentine, in barrels	,,	0	2	3
,, in drums	,,	0	2	6
Genuine Ground English White Lead	per ton	21	10	0
Red Lead, Dry	,,	21	10	0
Best Linseed Oil Putty	per cwt.	0	8	6
Stockholm Tar	per barrel	1	12	0

VARNISHES, &c.

	Per gallon.		
	£	s.	d.
Fine Elastic Copal Varnish for outside work	0	16	6
Best Elastic Copal Varnish for outside work	1	0	0
Best Elastic Carriage Varnish for outside work	0	16	0
Best Hard Oak Varnish for inside work	0	10	6
Best Extra Hard Church Oak Varnish for inside work	0	10	6
Fine Hard Copal Varnish for inside work	0	16	0
Best Hard Copal Varnish for inside work	1	0	0
Best Hard Carriage Varnish for inside work	0	16	0
Extra Pale Paper Varnish	0	12	0
Best Japan Gold Size	0	10	6
Best Black Japan	0	16	0
Oak and Mahogany Stain	0	9	0
Brunswick Black	0	8	6
Berlin Black	0	16	0
Knotting	0	10	0
Best French and Brush Polish	0	10	0

TO CORRESPONDENTS.

H. S.—W. de N.—M. H.—J.B.—(Amounts should have been stated.)

NOTE.—The responsibility of signed articles, letters, and papers read at meetings rests, of course, with the authors.

We cannot undertake to return rejected communications.

Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

We are compelled to decline pointing out books and giving addresses.

Any commission to a contributor to write an article is given subject to the approval of the article, when written, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 10 a.m. on Thursdays.* N.B.—We cannot publish Tenders unless authenticated either by the architect or the building-owner; and we cannot publish announcements of Tenders accepted unless the amount of the Tender is given, nor any list in which the lowest Tender is under 100*l.*, unless in some exceptional cases and for special reasons.]

* Denotes *accepted.* † Denotes *provisionally accepted.*

ABERDEEN.—For the erection of a car-shed, Mannofield, for the Town Council. Mr. Wm. Dyack, Burgh Surveyor, Town House, Aberdeen :—

Masonry.—Beattie & Sons, Holland-street	£538 9
Plastering.—Sellar & Co., John-street	75 18
Slating.—Adam & Co., Hutcheon-street	38 10
Plumbing.—Jas. Brown, Great Western-road	49 7

ASKAM-IN-FURNESS.—For the erection of schools, for Primitive Methodist Church. Mr. W. Richardson, surveyor :—

Brickwork, &c.—G. Martin, Dalton	£260 0 0
Joinery, &c.—I. Burrows, Dalton	158 17 6
Painting, Heating, &c.—J. W. Lawn, Dalton	74 15 6
	493 13 0

AXMINSTER.—For erecting the Devon and Cornwall new bank premises. Mr. Ernest A. Pryer, architect, Dunheved-chambers, Axminster, and Lyme Regis :—

C. Turner	£2,250	Stephens & Sons, Ld.	£1,832
J. W. & H. Childs	2,157	Cloud & Newbery	1,843
Bartlett & Sons	2,015	Parsons & Clarke, Axminster*	1,820
Woodman & Son	1,952		
J. G. Sprackling	1,885		

BLACKBURN.—For extensions to Norfolk-street (C.E.) schools, Mill-hill, for the Building Committee. Messrs. Stones & Stones, architects, 10, Richmond-terrace, Blackburn. Quantities by the architects :—

James Charnley, Mill-hill, Blackburn ... £1,256

BRIDLINGTON.—For the erection of a villa, Flamborough-road, for Mr. J. Buckley. Mr. A. R. Buckley, architect, Belgrave-square, South Cliff, Bridlington Quay :—

Bricklaying and Plastering.—J. Sawdon*	£365 0
Joinery.—Storr & Son*	344 0
Stone work.—T. Booth*	11 10
Tiling and Slating.—W. Dodgson*	74 7
Plumbing.—E. S. A. Smith*	150 0
Painting.—E. Dunn*	37 0

[All of Bridlington.]

BRIDLINGTON.—For additions to Marine House, Promenade, for Dr. Wetwan. Mr. S. Dyer, architect, Bridlington :—

E. Corner	£457 0	T. Spink	£418 0
F. Kneeshaw	452 9	W. Barnes	416 0
A. A. Booth	424 18	J. Rennard	332 17
R. Musk	422 5	J. H. Hudson, Princess-street*	326 17

[All of Bridlington.]

BROADSTAIRS.—For the erection of a house, North Foreland Estate. Mr. W. H. Woodroffe, architect, Town Hall Chambers, 32, High-street, Southwark, S.E. :—

Paramor	£3,010	Padget & Son	£2,660
Stiff	3,000	Wise	2,478
Tilbury	3,000	Gann	2,445
Martin	2,799	Wing	2,437
Denne & Co.	2,690	Turner, Walmer†	2,370

CARDIFF.—For the erection of a public convenience Roath, for the Corporation. Mr. W. Harpur, C.E. Town Hall, Cardiff. Quantities by Engineer :—

Allan & Sons	£326 12 4	Knox & Wells	£260 0 0
J. E. Evans	291 14 9	W. T. Morgan	258 15 0
D. W. Davies	291 10 0	F. J. Robbins*	253 13 6
F. Small	269 14 1	[All of Cardiff.]	

CHERRYHINTON (near Cambridge).—For the execution of sewerage works for the Chesterton Rural District Council. Messrs. Waters & Worrall, engineers, 2, Sidney-street, Cambridge. Messrs Beesley, Son & Nichols, consulting engineers, Westminster, S.W. :—

Swann Bros.	£16,311 9 8!	Cutler, Hayward & Co.	£10,290 0 0
Binn Bros.	13,467 3 7	Rayner	10,215 0 0
Banyard	12,990 0 0	Bloomfield	10,125 0 0
Cookes & Co.	12,183 0 0	Wilkinson	10,055 0 0
Jackson	11,962 12 0	Bentham & Co.	9,987 0 0
Underwood Bros.	11,897 0 0	Lock & Andrews	9,615 4 6
Bell	11,198 0 0	Johnson & Langley	9,527 0 0
Manders	11,087 0 0	Jones & Sons, Poole*	9,233 7 5!
Johnson Bros.	10,700 0 0		
Burgoyne & Sons	10,622 17 0		

CHISLEDON (Wilts).—For the erection of three cottages, Draycot Farm, near Swindon, Wilts, for Colonel T. C. P. Calley. Mr. R. L. Beswick, architect, 35, Regent-street, Swindon :—

J. Williams	£740 0	C. Hunt	£555 0
R. J. Leighfield	590 0	W. Warren, Chisledon, nr. Swindon*	545 0
S. Chambers	586 5	W. Cowdrey	505 0
A. J. Colborne	579 10		

HASTINGS.—For the construction of a lift station and conveniences, East Hill, for the Corporation. Mr. P. H. Palmer, C.E., Town Hall, Hastings :—

W. F. Ditch, Hastings* £655

HULL.—For the erection of pavilions, &c., for the Infirmary Board. Messrs. T. Worthington & Son, architects, 46, Brown-street, Manchester. Quantities by Mr. John Watson, surveyor, Hull :—

Armitage & Hodgson	£26,870 15 8	Blackburn & Son	£24,523 0 9
A. Lyons	26,839 0 0	Good & Sons, Ltd.	24,106 4 11
Executors T. Southern	26,152 0 5	M. Harper	23,588 0 9
G. Houlton	25,118 0 0	I. T. Levitt	23,505 19 1
Bowman & Sons	24,703 0 0	F. Beilby, Hull*	23,047 13 1
T. Goates	24,568 0 0		

LONDON.—For alterations at the "Earl of Warwick" public-house, Stoke Newington, N. Mr. Herbert Riches, architect, 3, Crooked-lane, King William-street, London, E.C. :—

Dearing & Son	£976	Green & Smith	£820
Goodall & Son	883	Sheffield Bros.*	760
Chapman & Co.	863		

LONDON.—For repairs to shop premises, Finsbury pavement, London, E.C. Mr. Herbert Riches, architect, 3, Crooked-lane, King William-street, London, E.C. :—

Cooke & Co.	£275 12	J. Jefford	£194 0
A. Major	205 0	Osborn & Sons*	180 0

LUTON.—For residence, the Drive, Hart Hill, for Mr. B. Laporte. Mr. A. Wilkinson, architect, Inkerman-street :—

T. & E. Neville	£1,345	G. Angel	£1,120
G. W. Pryer	1,265	Mallet & Wood	1,049
G. Kingham	1,140	Alfred Mardle*	1,048

[All of Luton.]

NEWLYN (Cornwall).—For the erection of two houses and shop, Bucka's-pass, for Mr. R. Batten. Mr. Henry Maddern, architect, 26, Clarence-street, Penzance :—

John Lavers	£356 10	Jas. & John White	£352 6
John S. Tregenza	353 10	James Rowe	345 0
Thos. James	353 10	Joseph H. Nicholas, Penzance*	285 11

OSWESTRY.—For the erection of business premises Leg-street and Albion Hill. Mr. W. H. Spaull, architect The Gables, Oswestry :—

Wm. Felton	£1,785 0 0	Jones & Evans, Oswestry*	£1,614 0 0
W. H. Thomas	1,648 10 6		
J. Higgings	1,620 0 0		

OSWESTRY. — For erecting Freemasons Hall, Oswestry. Mr. W. H. Spaull, architect, The Gables, Oswestry :—

W. Bowdler	£2,207 0	Jones & Evans	£1,798 10
W. H. Thomas	1,845 0	Griffiths & Son, Ellesmere*	1,750 0
W. Felton	1,820 10		

PLUMPTON (Sussex).—For alterations, &c., to house and premises, Sedgebrook, for the Cuckfield Rural District Council. Mr. A. R. Pannett, architect, Hayward's Heath :—

J. Whiting	£578 0 0	W. Wells, Plumpton*	£510 0 0
W. A. Small	541 2 3		
F. Agate	536 2 0		

ROTHERHAM.—For additions to National Schools, Braithwell, for the Managers. Mr. E. T. Hubbard, architect, Moorgate-street, Rotherham :—

Chas. Green & Co., Wellgate, Rotherham ... £260

SOUTHEND-ON-SEA.—For the erection of two shops, Heygate-avenue. Messrs. Greenhalgh & Brockbank, architects, Bank Chambers, Southend. Quantities by the architects :—

Baker & Wiseman	£1,793 0	Harris & Rowe	£1,450 0
E. West	1,695 0	W. E. Davey	1,442 10
Golding	1,658 0	W. Stubbs	1,382 7
Ardley & Elvey	1,584 0	J. Band, Southend†	1,360 0
Moss	1,512 0		
Shelbourne & Co.	1,492 0		

SOUTH NORWOOD.—For taking down St. Thomas's temporary iron church, Telford-avenue, Streatham Hill, and re-erecting with alterations as parish-room in the rear Holy Innocents Church, South Norwood. Mr. Money Marsland, surveyor, 68, Gt. Tower-street, E.C. :—

Mitson & Co.	£554 10	E. Crossley†	£497 0
Lightfoot & Ireland	512 0		

SWINDON.—For alterations to Nos. 31, 32, 33, and 34, Fleet-street, Swindon, for Mrs. M. E. Storer. Mr. Robert J. Beswick, architect :—

S. Chambers, Swindon* £370 12 6

TORQUAY.—For the erection of the Mallock memorial clock tower. Mr. J. Donkin, architect, Bournemouth :—

W. A. Goss	£1,293 0 0	A. R. Webber	£988 10 6
R. F. Yeo	1,200 0 0	Jenkins & Sons	964 10 0
Parker & Sons	1,030 0 0	E. P. Bovey	920 0 0
E. Pike	999 7 0	H. C. Jackman	830 0 0

WALTHAMSTOW.—For the erection and completion of Sunday schools for the Trustees of the United Methodist Free Church. Mr. J. Williams Dunford, architect, 100c Queen Victoria-street, E.C. :—

W. Shurmur	£3,896	F. J. Coxhead	£3,697
S. J. Scott	3,799	Sands, Palmer, & Co.	3,690
J. Reed	3,740		

WANSTEAD (Essex).—For the erection of a building at the cottage hospital for the Urban District Council. Mr. C. H. Bressey, Surveyor, Council Offices, Wanstead :—

Priest & Son	£346 0 0	J. B. Hutchins	£295 0 0
A. Reed	342 0 0	W. Mundy	276 0 0
J. Jolliffe	330 0 0	W. A. Robins	258 0 0
Osborn & Sons	324 0 0	T. J. Hawkins	255 0 0
Rolfe & Co.	308 0 0	G. P. Banbury	243 11 3
F. L. Willmott	300 0 0	G. Ginger, jun., Manchester*	229 0 0
Sands, Palmer, & Co.	298 10 0	Thompson & Co.	216 8 6
Mitson & Harrison	295 10 6		

[*See also next page.*

WARE.—For the construction of sewer, Viaduct-road, and siphon under river Lee, for Ware Urban District Council. Mr. J. Elliott Smales, Surveyor :—

S. Ketteringham	£483 0 9	R. W. Swaker, Hounslow*	£400 0 0
A. C. Soan	411 6 0		

WARE (Herts).—For the execution of road improvement works. Amwell End. Mr. J. E. Smales, Surveyor, New-road, Ware :—

Wallace & Inns.	£817 13 2	M. S. Kettering-ham	£685 4 6
A. C. Soan	781 15 6	G. Porter	671 15 1
Collis & Co.	695 4 7	S. Hipwell	658 9 10
C. C. Smith	690 13 10	A. T. Catley, Lloyd-square, W.C.*	637 0 0
Felkin & Watson	683 12 6		
W. H. Wheeler.	686 0 6		

WESTCLIFF.—For the erection of a pair of houses, Westcliff-on-Sea, Essex. Mr. Herbert Riches, architect, 3, Crooked-lane, King William-street, London, E.C. Quantities supplied :—

Courtney & Fairbairn	£2,325 0	Dupont & Co.	£2,085 0
Baker & Wiseman	2,155 0	A. Ducat*	1,898 10

WILLESDEN.—For the erection of main station, Electricity Works, Taylor's-lane, for the Willesden District Council. Mr. O. Claude Robson, Engineer :—

S. W. Moscrip	£38,487	J. & M. Patrick	£32,199
Foster Bros.	36,880	C. G. Hill	31,897
Patman & Fotheringham	36,701	M. G. Minter	31,890
Smith & Sons	35,824	Johnson & Son	31,250
Godson & Sons	35,150	Wilkinson Bros.	30,900
Allen & Sons	34,500	B. E. Nightingale	30,219
Martin Wells & Co.	32,942	Pattinson & Son*	29,933

WILLESDEN.—For the erection of sub-station, Electricity Works, Salusbury-road, for Willesden District Council. Mr. O. Claude Robson, Engineer :—

S. W. Moscrip	£15,018	F. G. Minter	£13,257
J. & M. Patrick	14,920	Martin Wells & Co.	13,126
Godson & Sons	14,100	G. Neal	13,118
Patman & Fotheringham	14,100	Pattinson & Son	12,943
Smith & Sons	14,031	Johnson & Son	12,875
C. G. Hill	13,529	B. E. Nightingale	12,290
Simpson & Sons	13,373	Braid, Pater, & Co.*	11,300
Allen & Sons	13,365		
Foster Bros.	13,280		

WILLESDEN.—For alterations and additions to the Isolation Hospital, for the Willesden District Council. Mr. O. Claude Robson, Engineer :—

Godson & Sons	£30,474 0 0	Johnson & Son	£26,620 0 0
S. W. Moscrip	30,427 11 4	Sabey & Son	26,615 0 0
Simpson & Son	28,761 0 0	Nightingale	26,212 0 0
H. Martin	27,272 0 0	Gibb & Co.*	25,815 0 0
C. Brightman	27,200 0 0		

WOKING.—For the formation and sewering of Ashwood-road and remainder of Heathfield-road, for the Suburban Building Land Co., Ltd. Messrs. Pooley & Follett, architects and surveyors, 21, John-street, Adelphi, W.C. :—

	New roads.	Sewers.	Totals.
Thomas Adams	£1,656 0 0	£380 0 0	£2,036 0 0
W. Langridge	1,511 17 1	359 12 9	1,871 9 10
Chafen & Newman	1,442 7 10	338 8 2	1,780 16 0
G. A. Franks	1,395 0 0	338 0 0	1,733 0 0
Drowley & Co.	1,376 0 0	336 0 0	1,712 0 0
Bentham & Co.	1,413 0 0	281 0 0	1,694 0 0
S. Kavanagh, Surbiton Hill*	1,366 8 3	308 4 0	1,674 12 3

WILLESDEN.—For the erection of chimney-shaft, Electricity Works, Taylor's-lane, for Willesden District Council. Mr. O. Claude Robson, Engineer :—

Neil & Co.	£8,324	Martin Wells & Co.	£5,984
Wilson Bros. & Co.	7,979	B. E. Nightingale	5,945
Myles & Warner	7,285	Pattinson & Son	5,743
Foster Bros.	7,280	Wilkinson Bros.	5,700
S. W. Moscrip	6,637	Allen & Sons	5,685
Storrs, Son, & Co.	6,569	C. G. Hill	5,597
Smith & Sons	6,132	Godson & Sons	5,502
J. & M. Patrick	6,099	F. G. Minter	5,390
Patman & Fotheringham	6,085	Johnson & Son*	5,364

WOLVERHAMPTON.—For additions, &c., to Townhall, for the Corporation. Mr. Fred. T. Beck, architect, Darlington-street, Wolverhampton. Quantities by Messrs. Vale & Kingsford :—

W. Hopkins	£17,050	Merton Hughes	£15,520
G. Cave & Son	16,500	James Herbert	15,159
H. Gough	16,200	Willcock & Co., Wolverhampton*	14,550
Lindsay Jones	15,700		

For Panelling, &c., in Council Chamber and Mayor's Reception Room.

Willcock & Co.* £1,375

WOOLWICH.—For the erection of wall at the union grounds, Plumstead, for the Union Guardians. Mr. J. O. Cook, architect, 12, Eleanor-road, Woolwich. Quantities by Mr. C. W. Brooks, 63, Finsbury-pavement :—

Stephens & Son	£1,200	Thomas & Edge, Woolwich*	£871
E. Proctor	1,057	Lanford & Co.	710
J. W. Hart	974		
Herbert Bros.	890		

A CORRECTION IN TENDERS.—Messrs. Palgrave & Co. write :—"Referring to your list of tenders in your issue of the 21st ult., for the erection of D'Eresby House, Ealing Common, W., we notice a clerical error in Messrs. Barker & Co.'s estimate, which should be 20,342*l.* in lieu of 26,342*l.*, and in justice to them we should be glad if you would notify same. Owing to the Christmas holidays it was unnoticed before."

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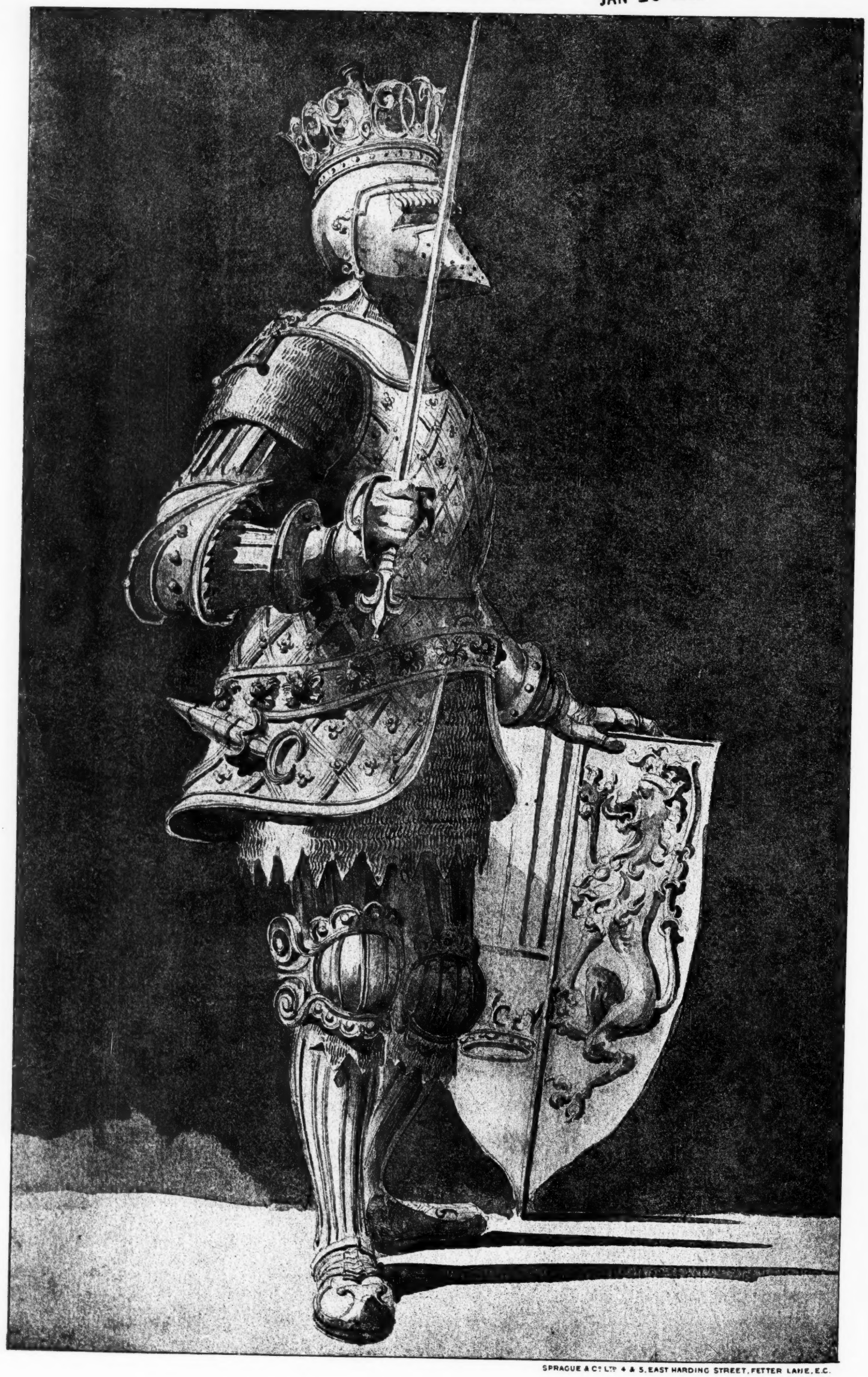

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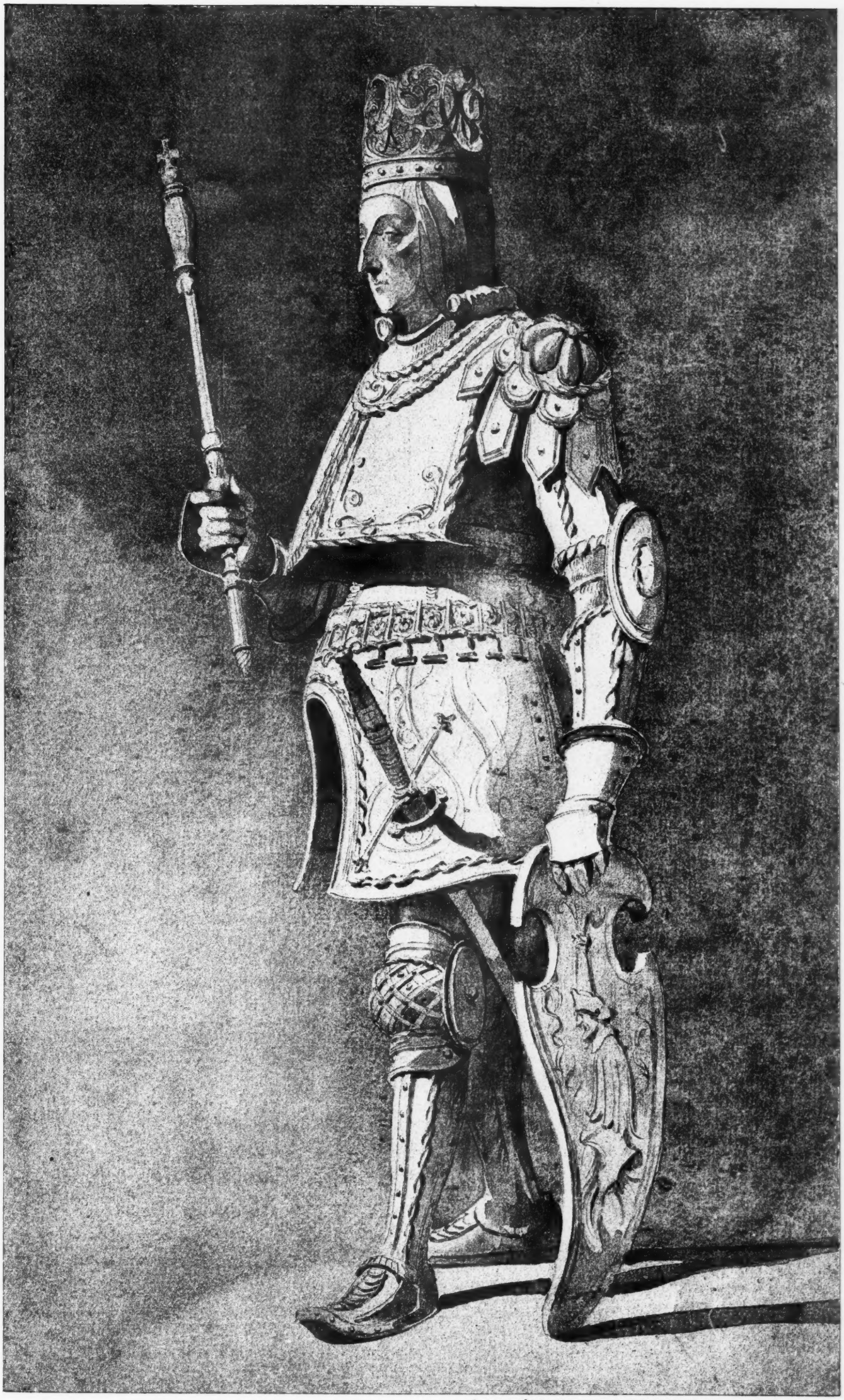

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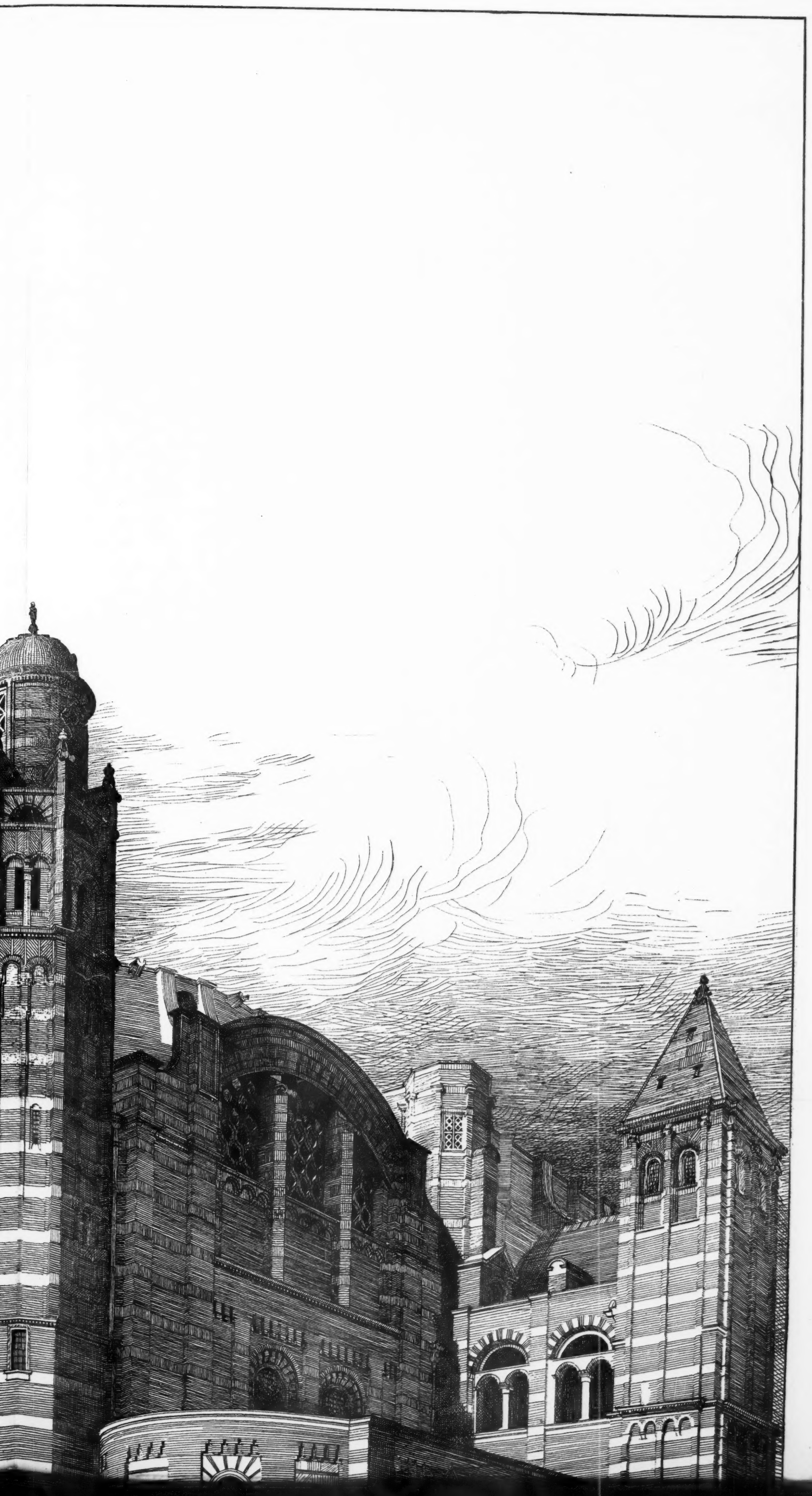

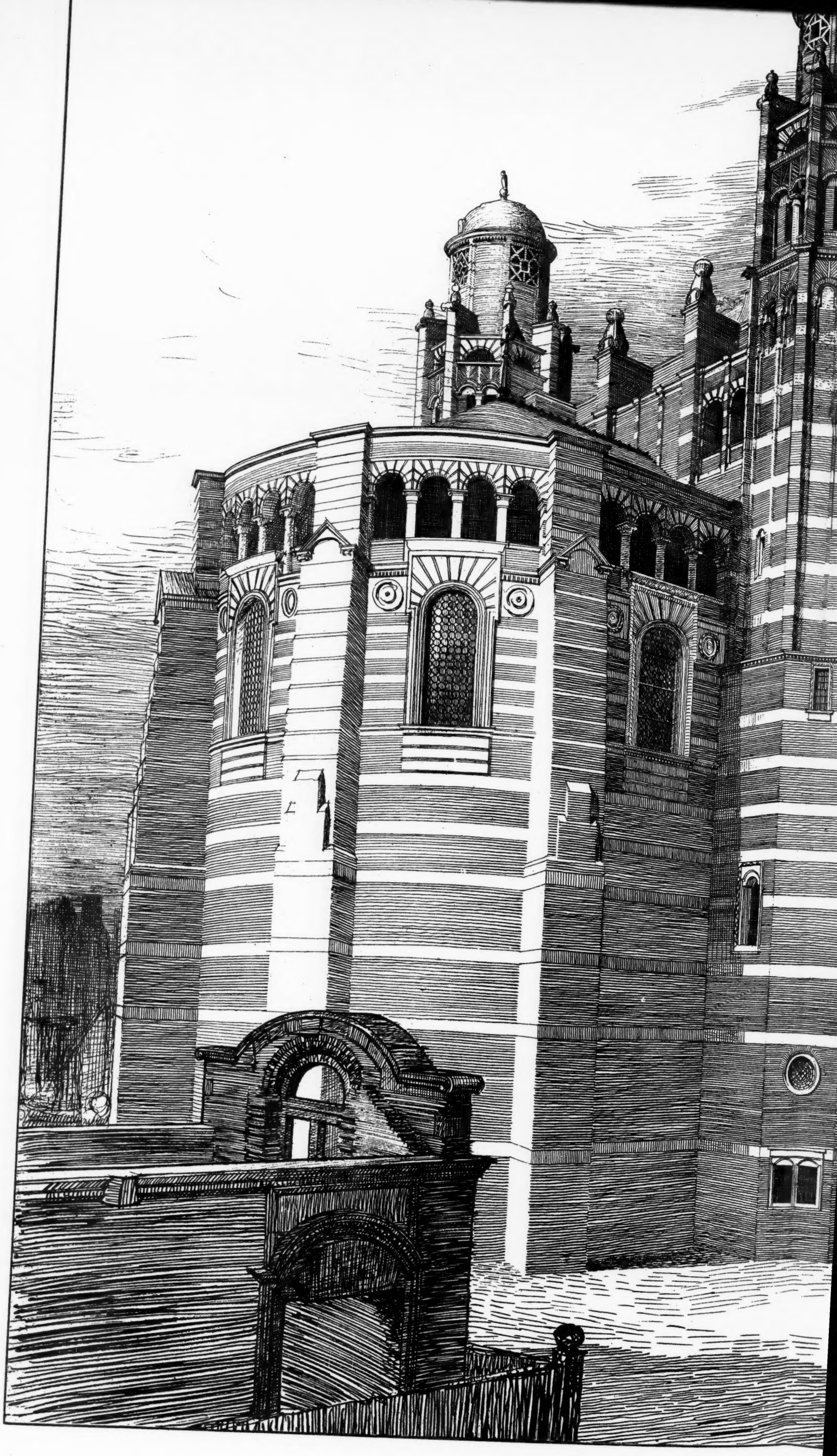

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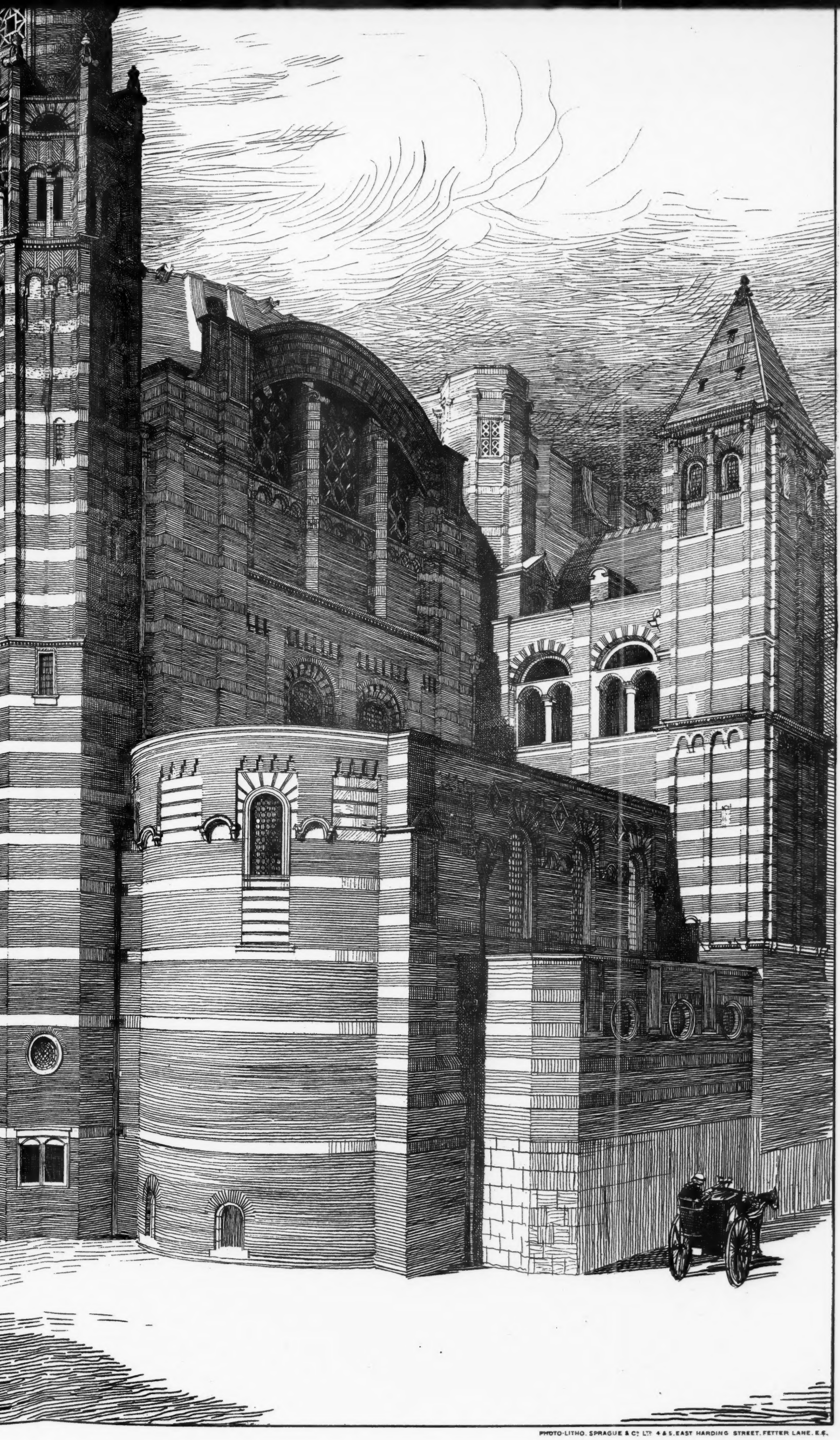

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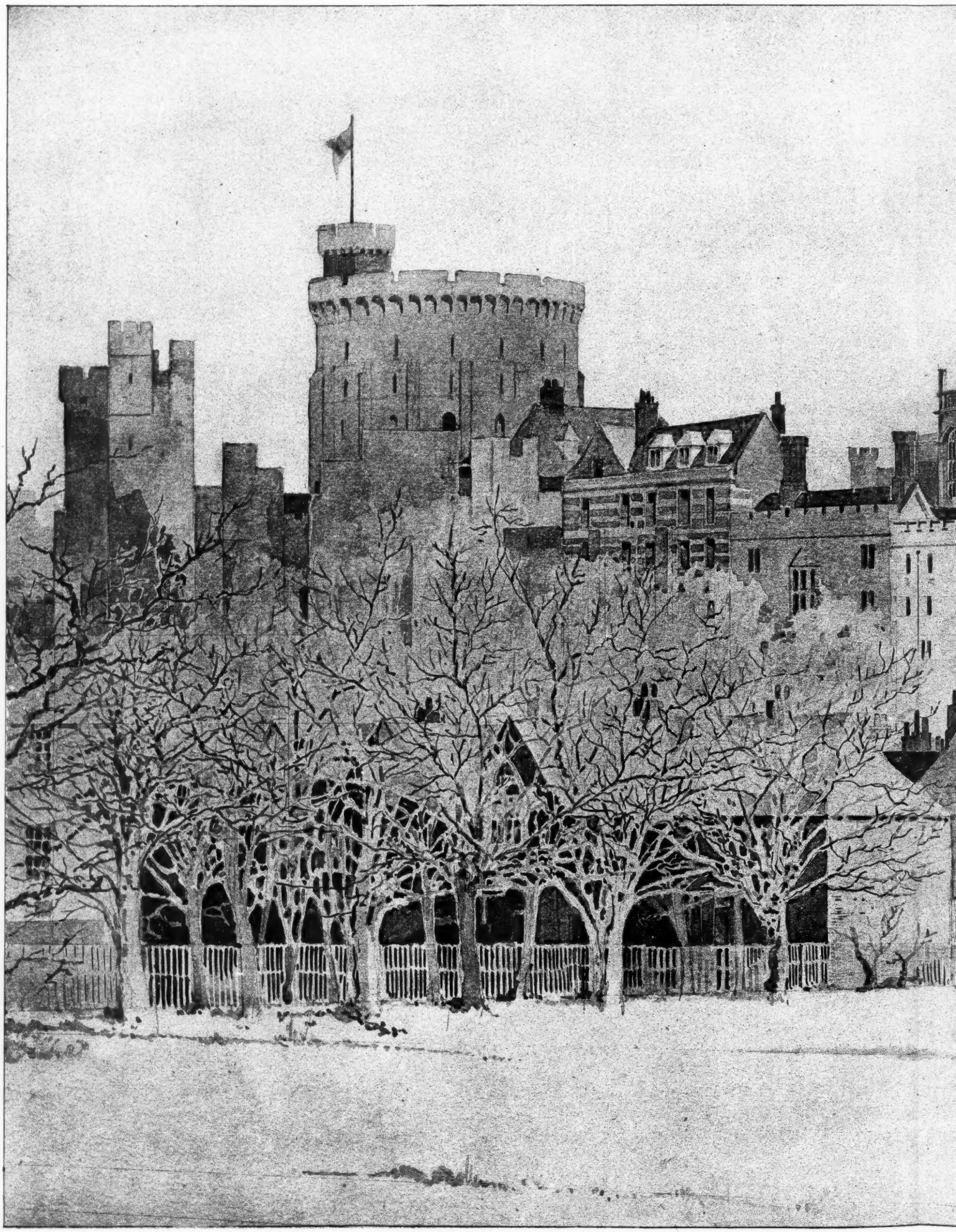

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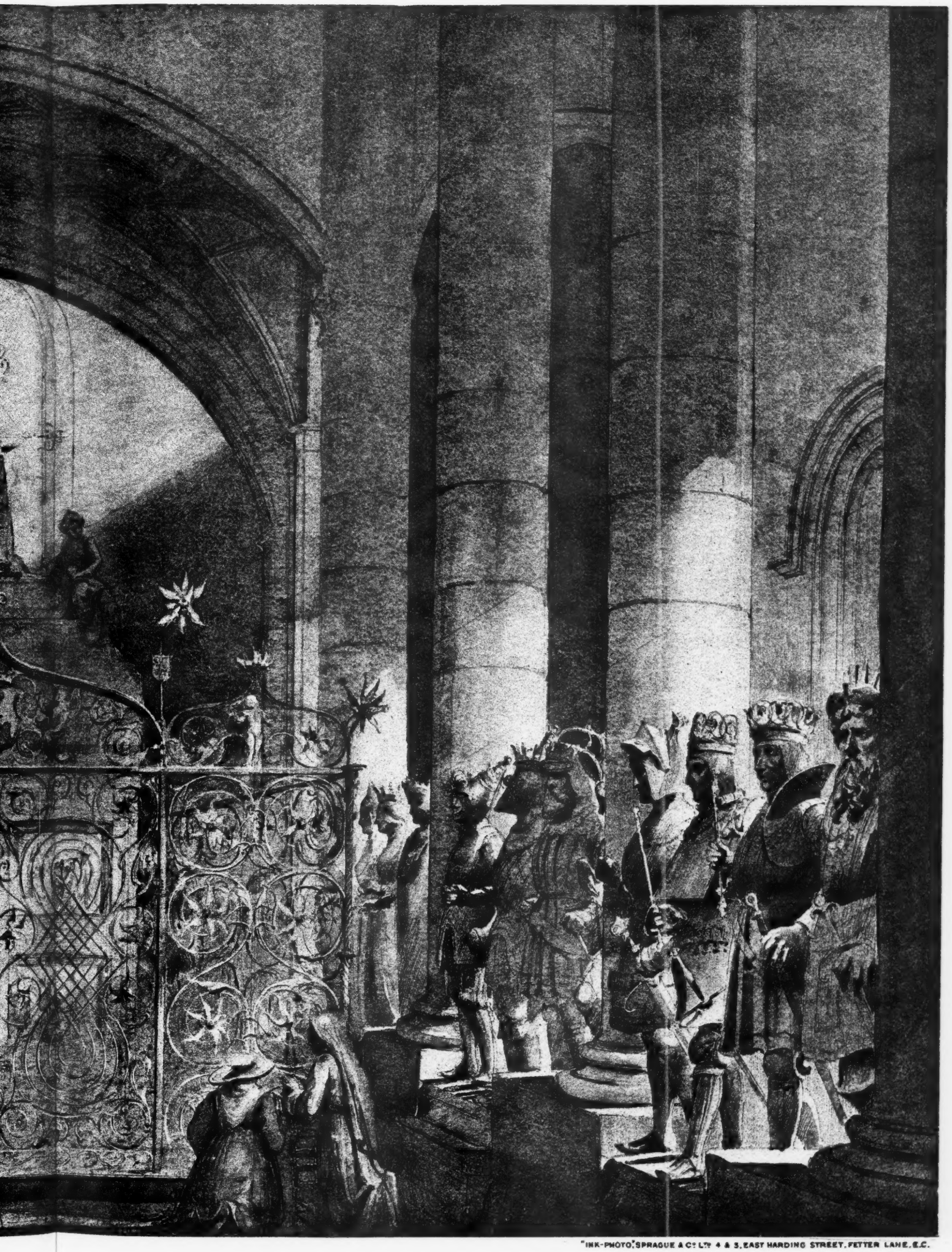

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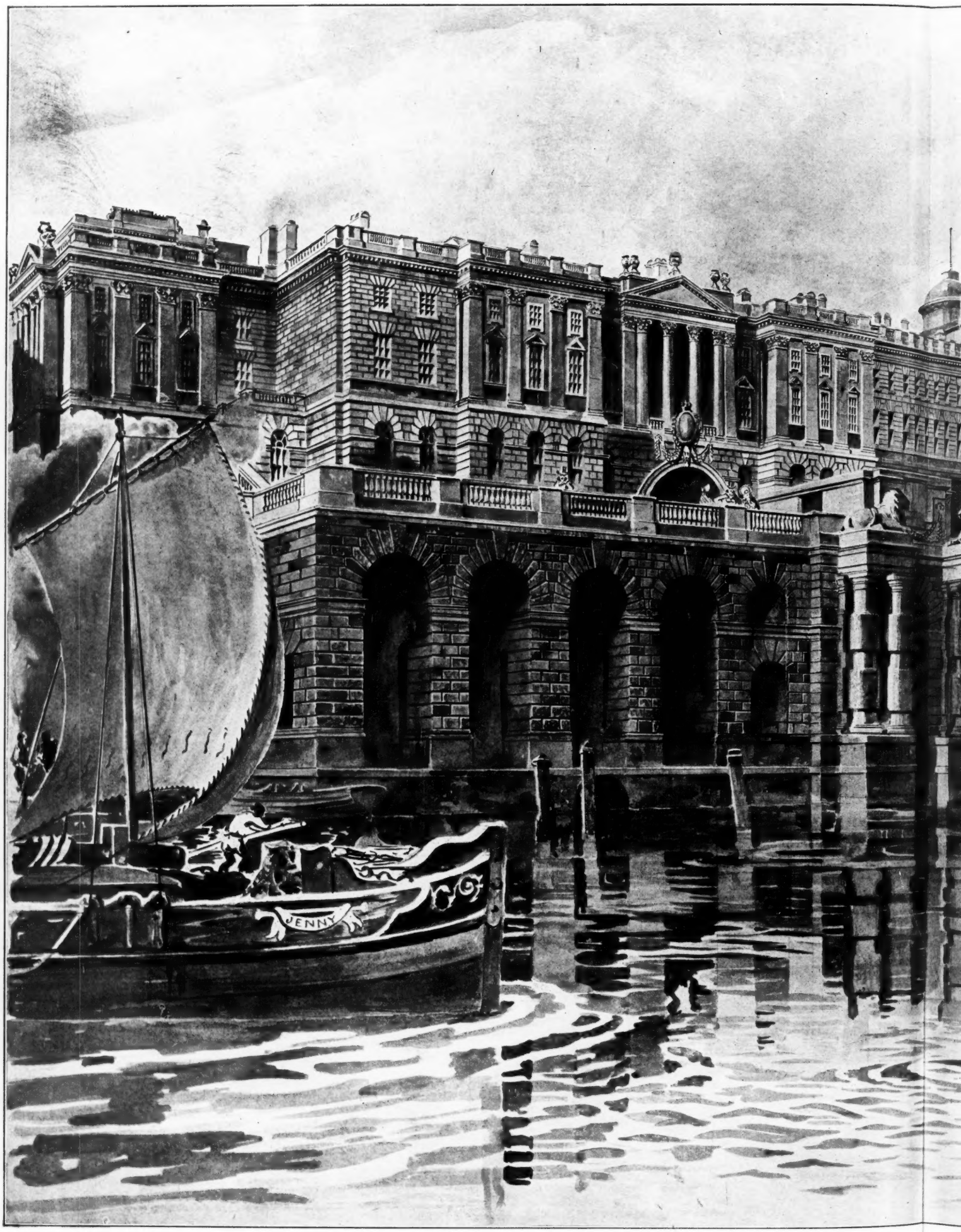

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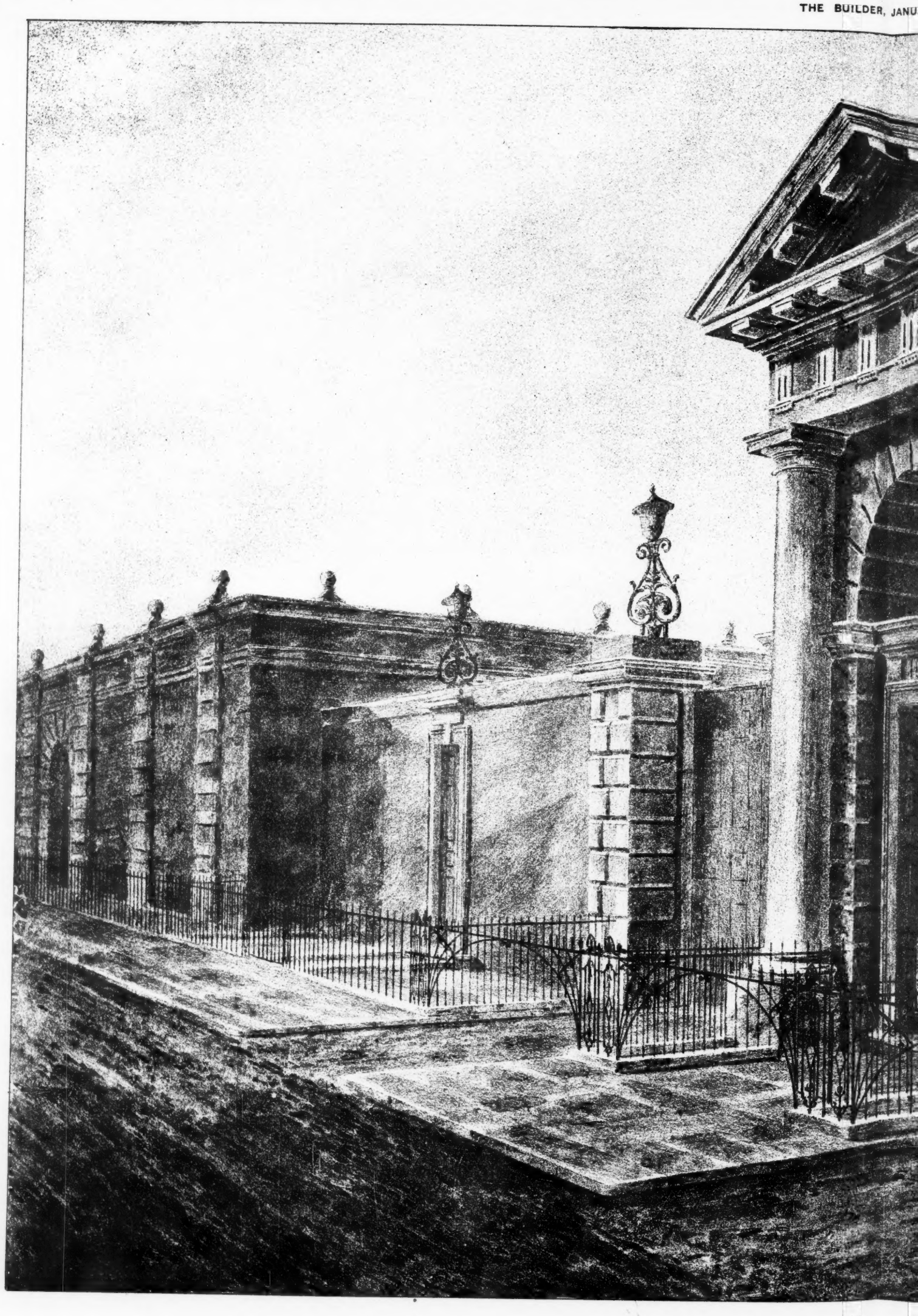

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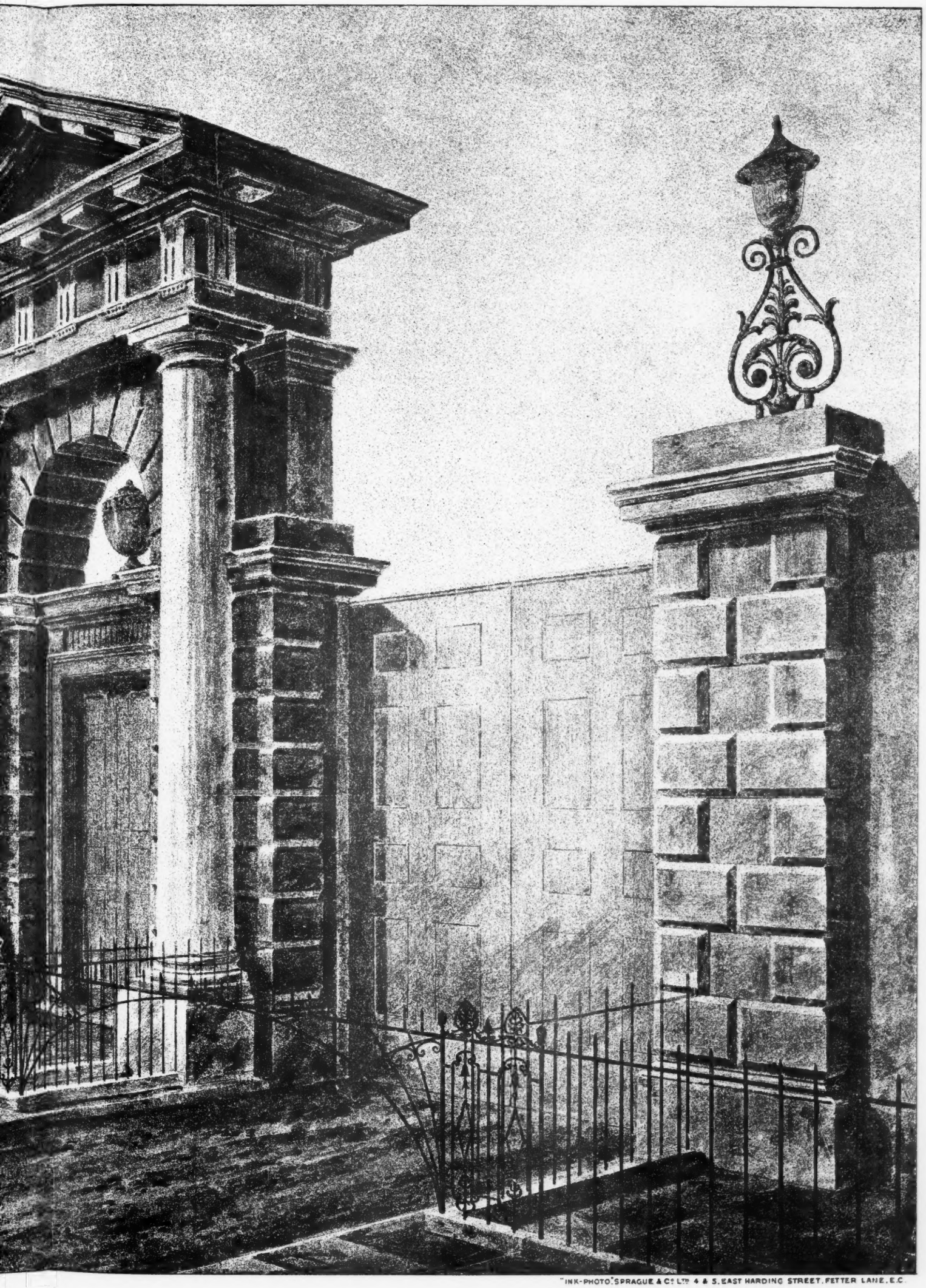

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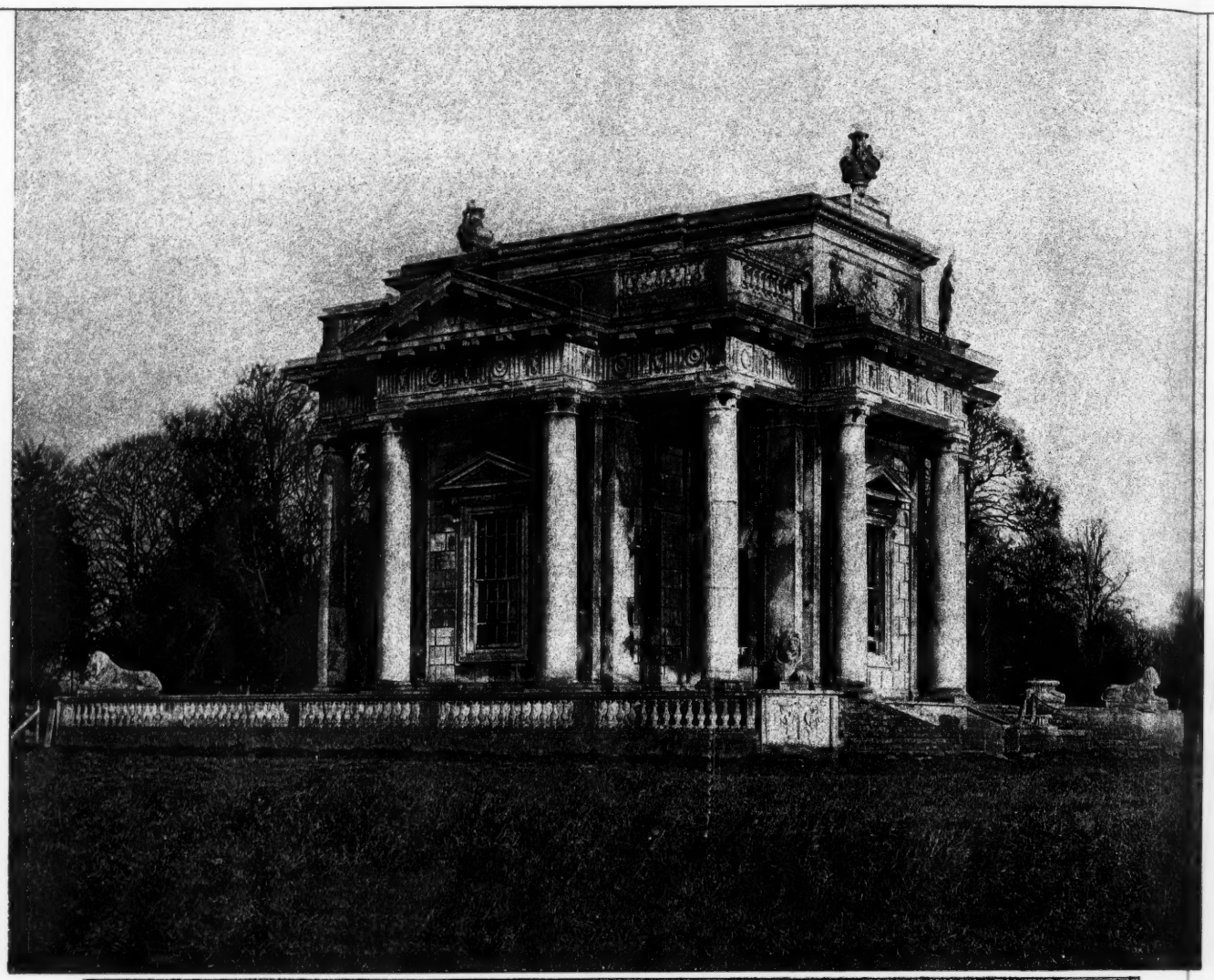

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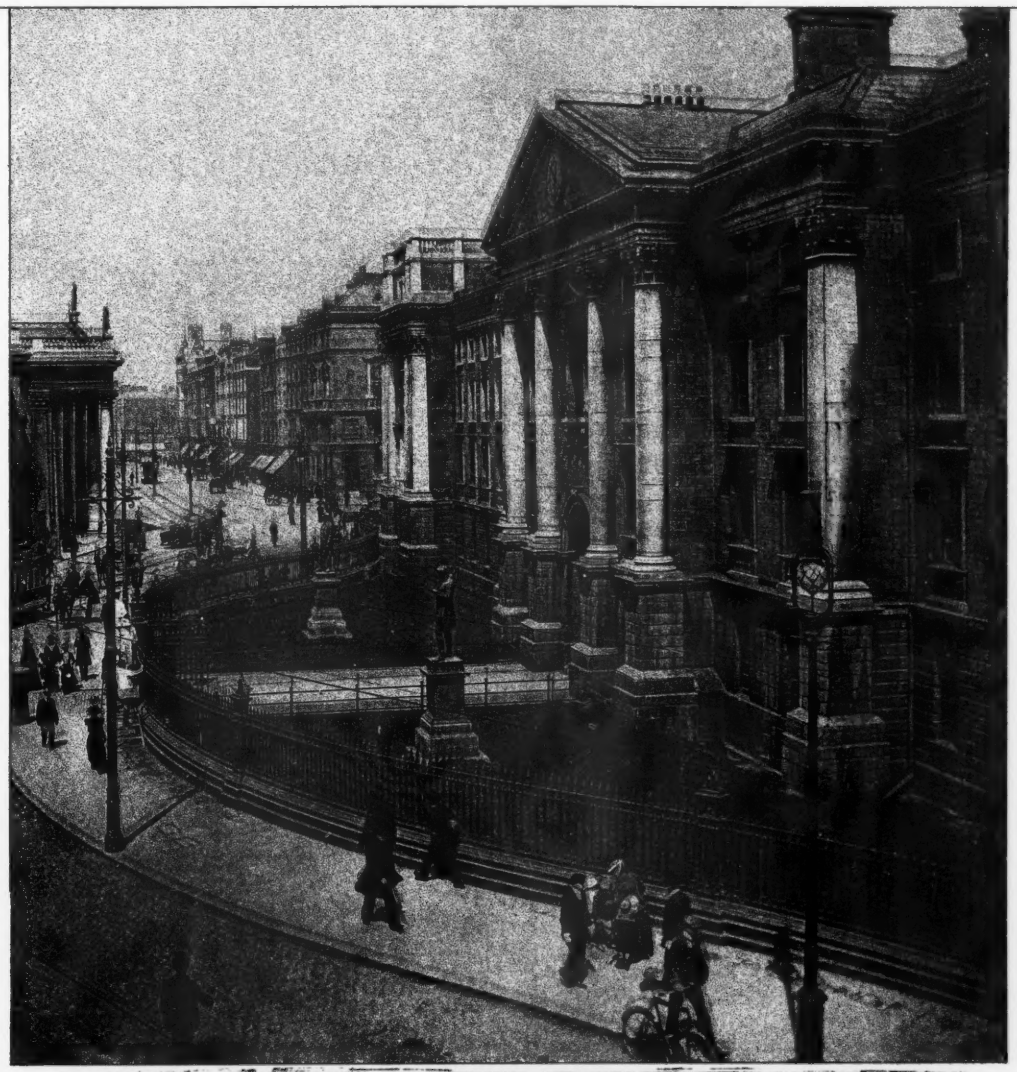
2.—Trinity College, Dublin.
3.—Fire-place in Duddingstone House.
4.—Hall and Staircase, Duddingstone House.

2.



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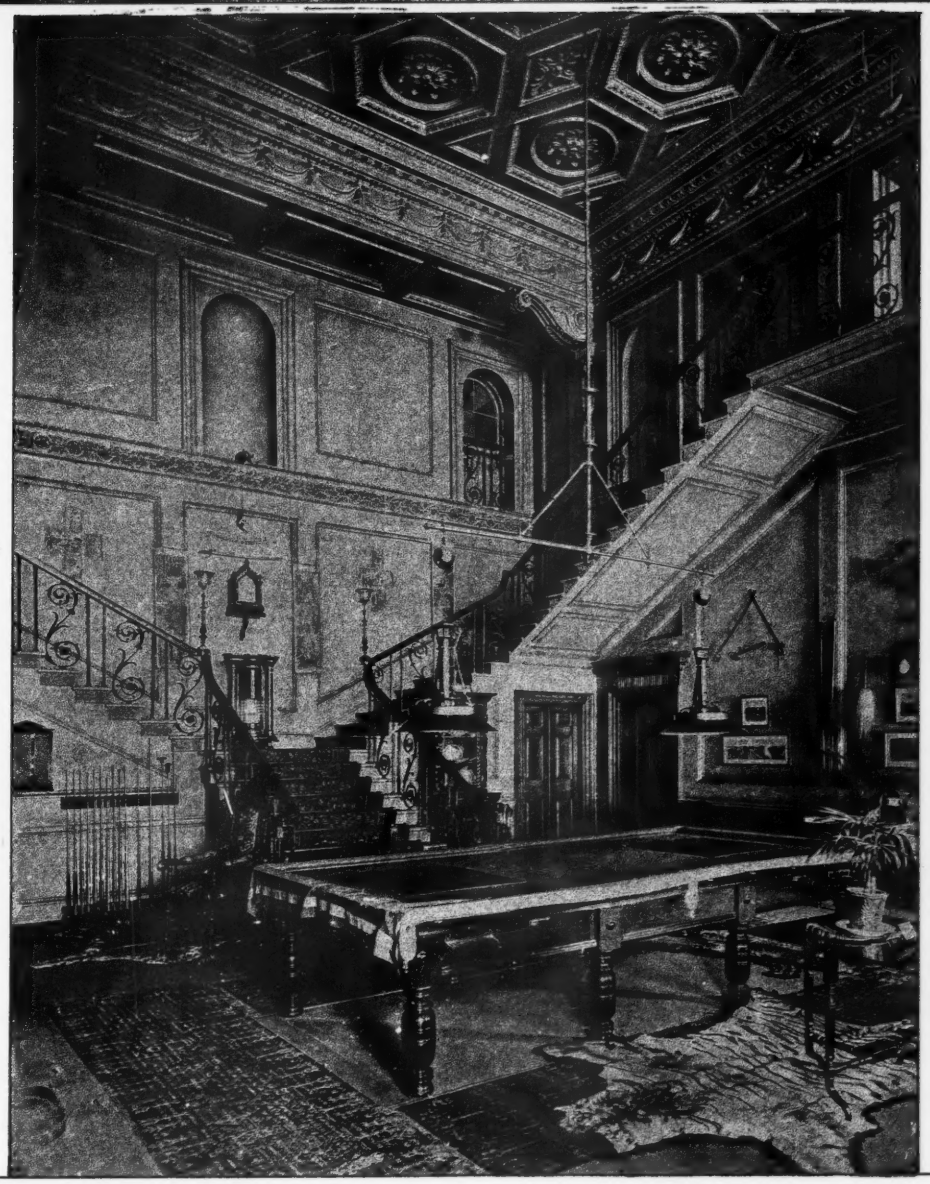

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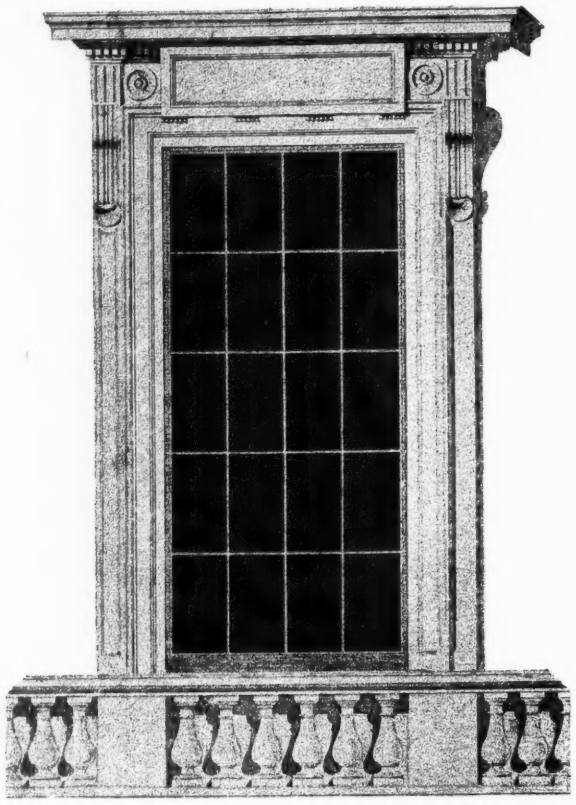
S BY SI WILLIAM CHAMBERS.



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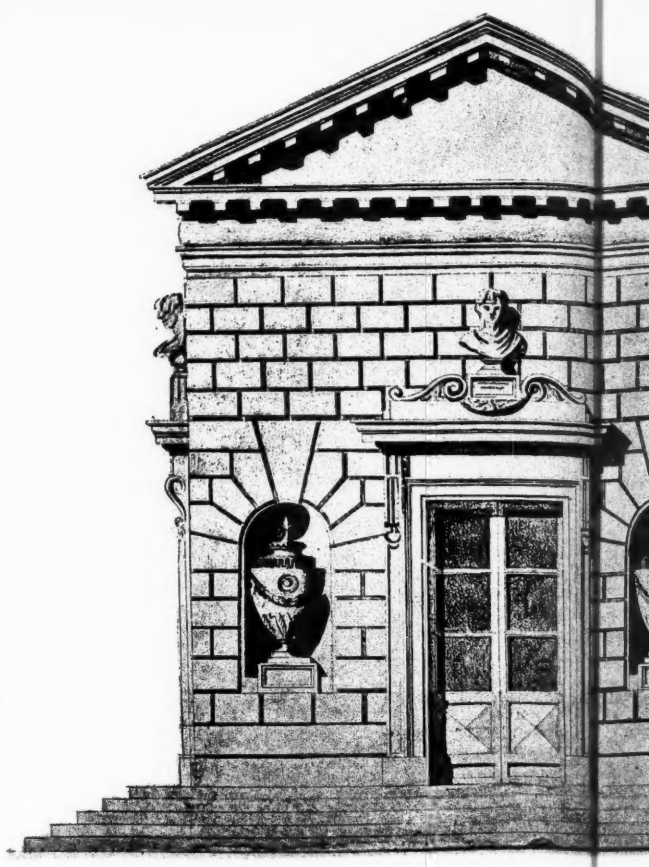

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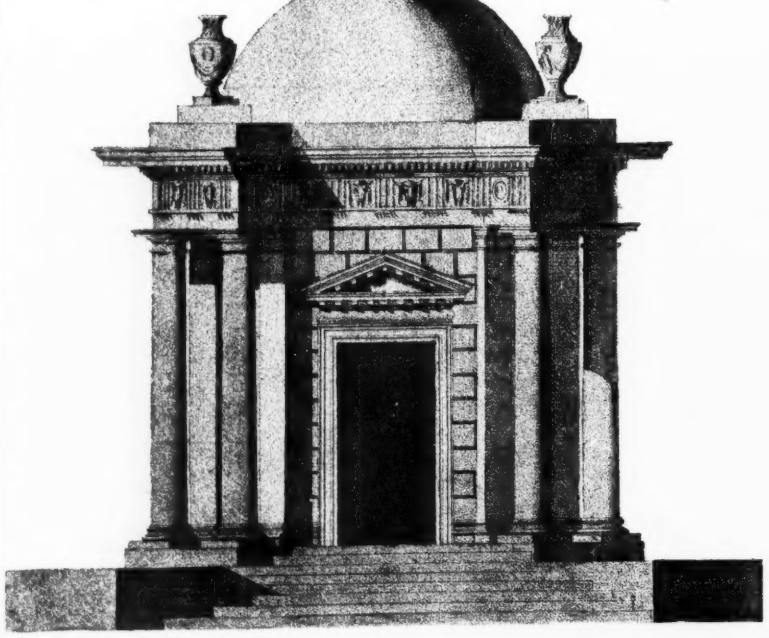

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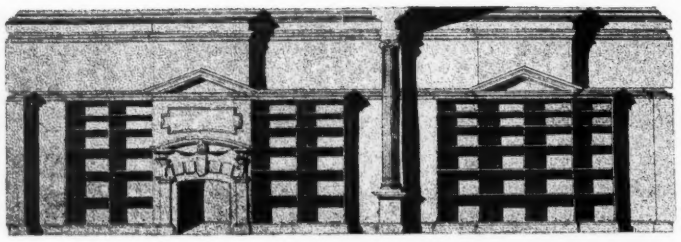

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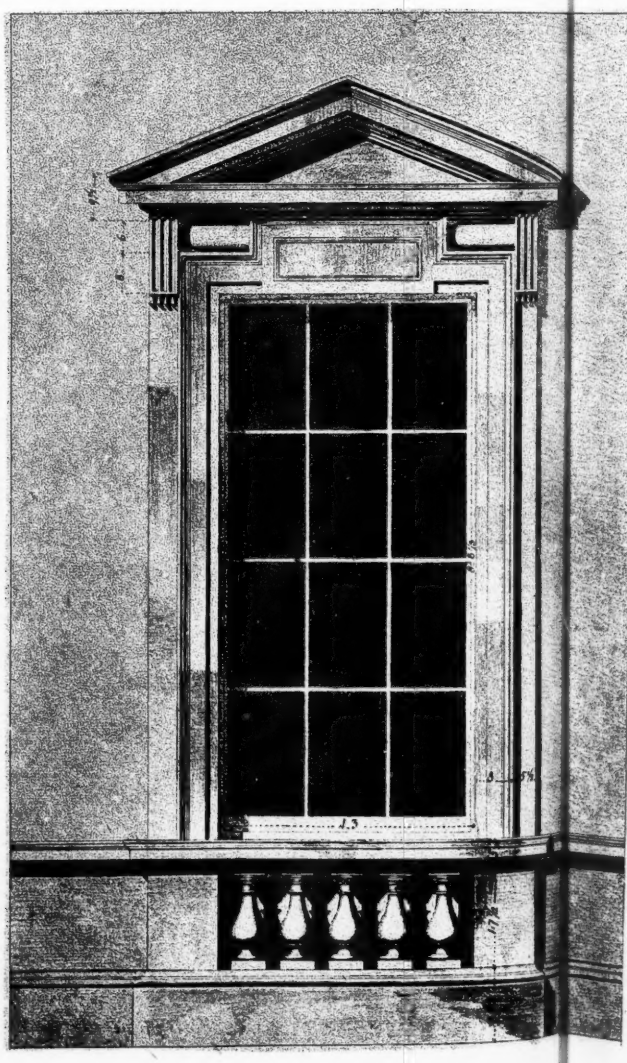
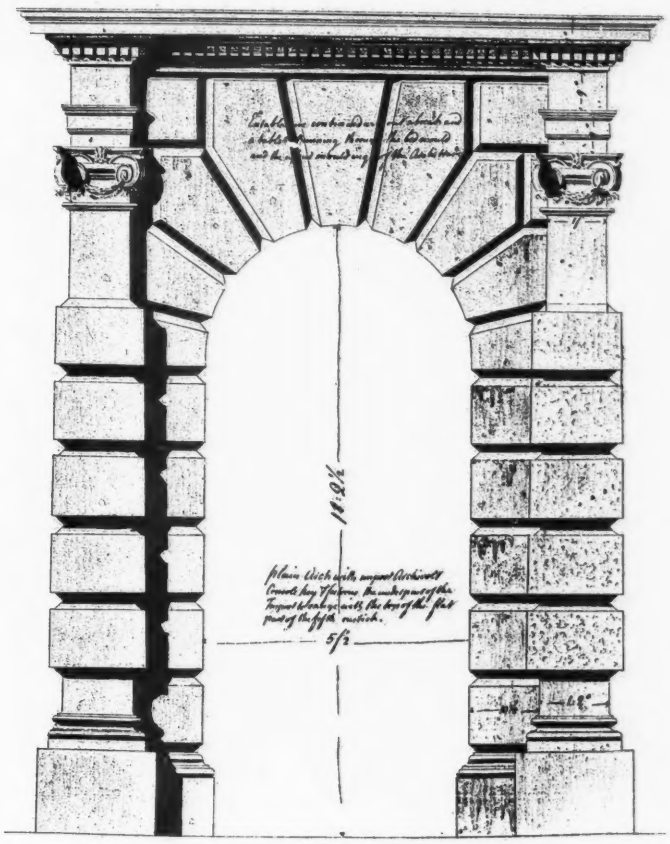


6.

VARIOUS DESIGNS AND DETAILS BY SI

(FROM DRAWINGS IN THE SOANE



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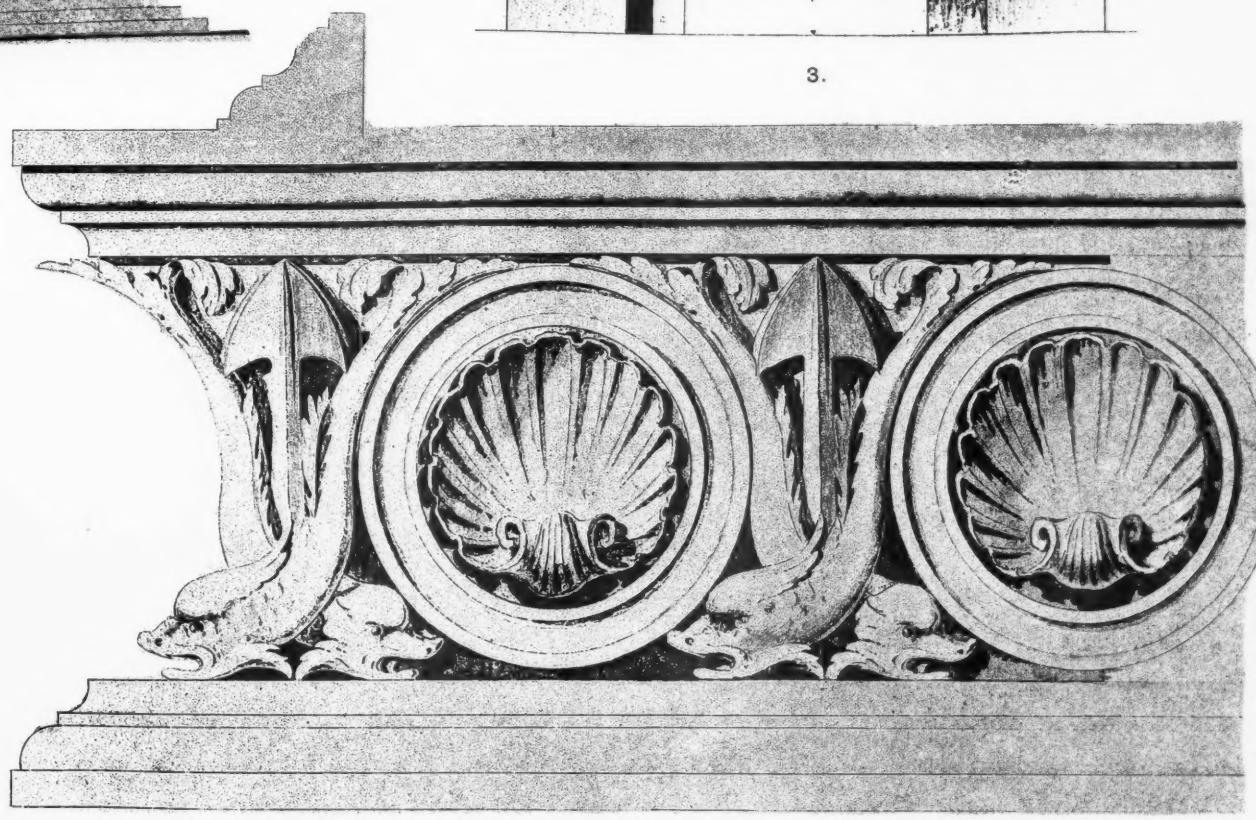

7.

8.

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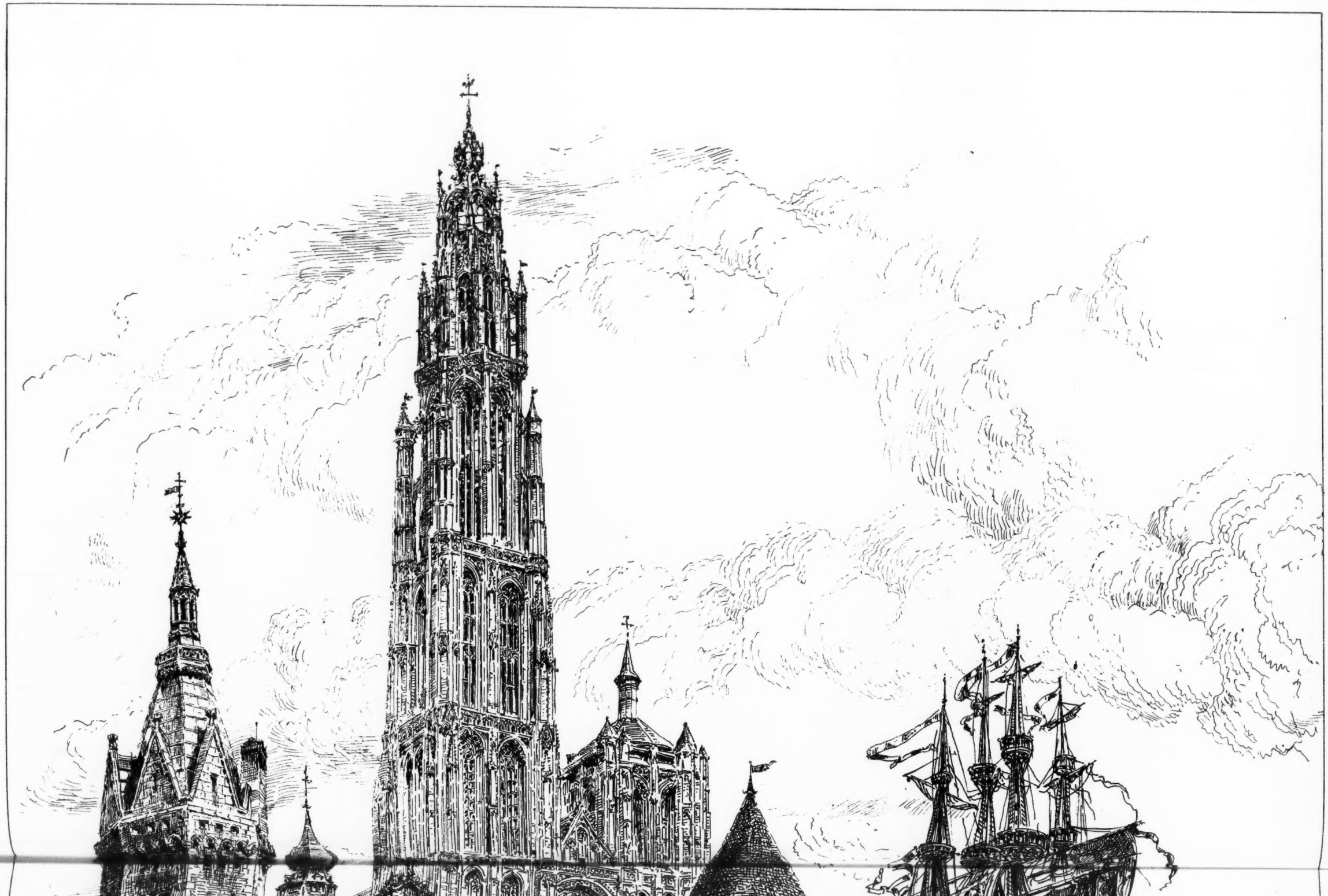
DETAILS BY SIR WILLIAM CHAMBERS.

(WINGS IN THE SOANE MUSEUM.)



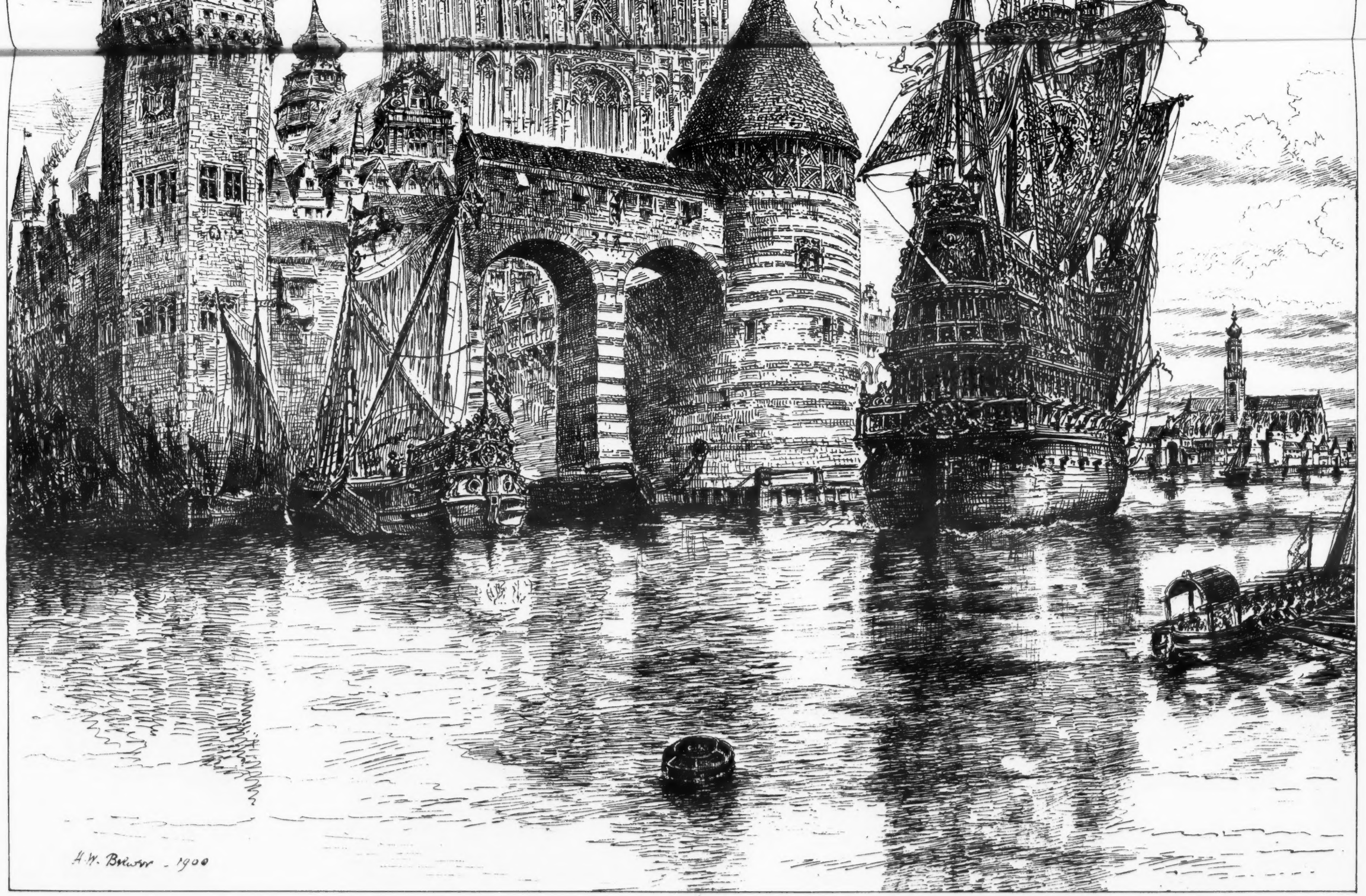
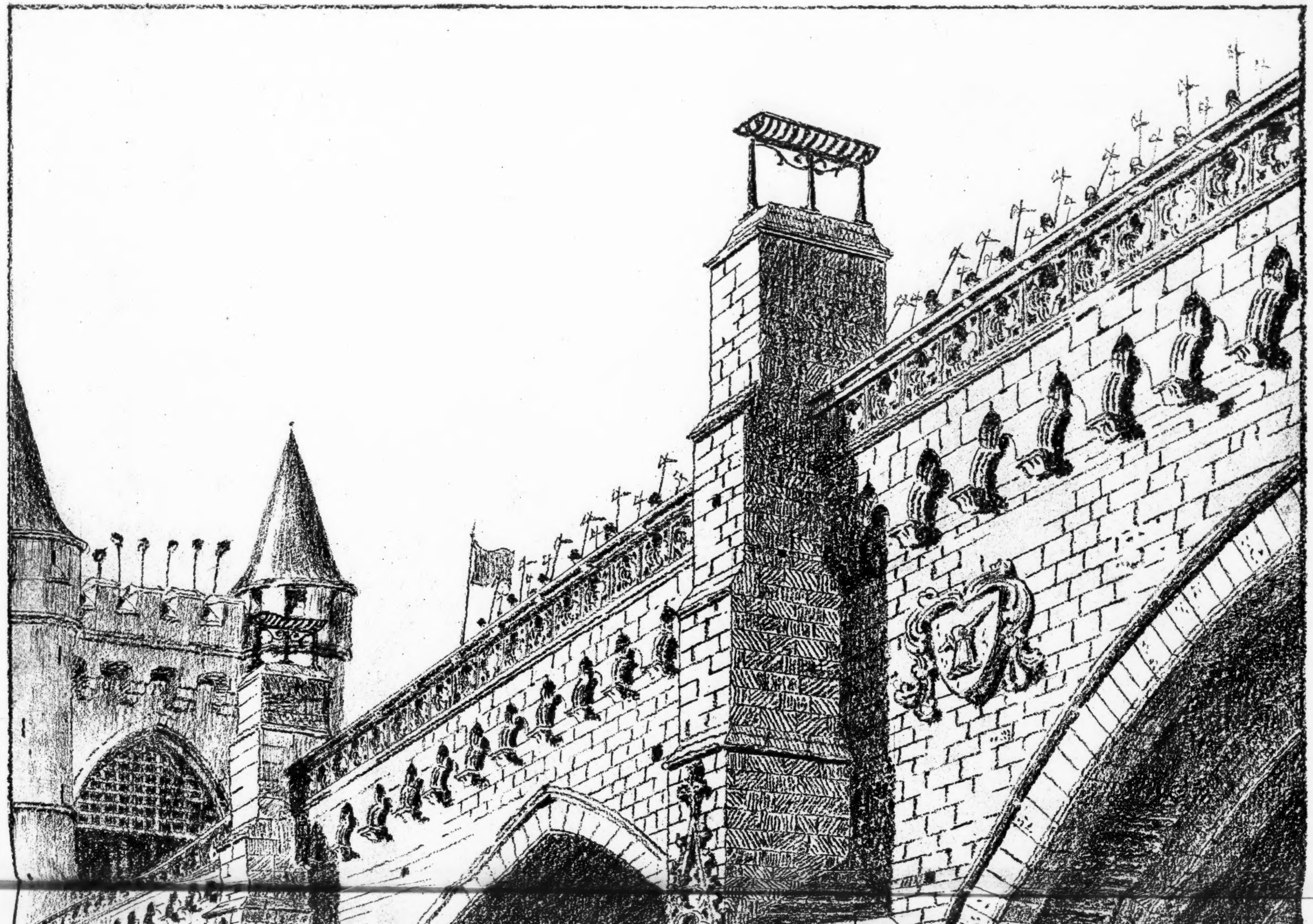
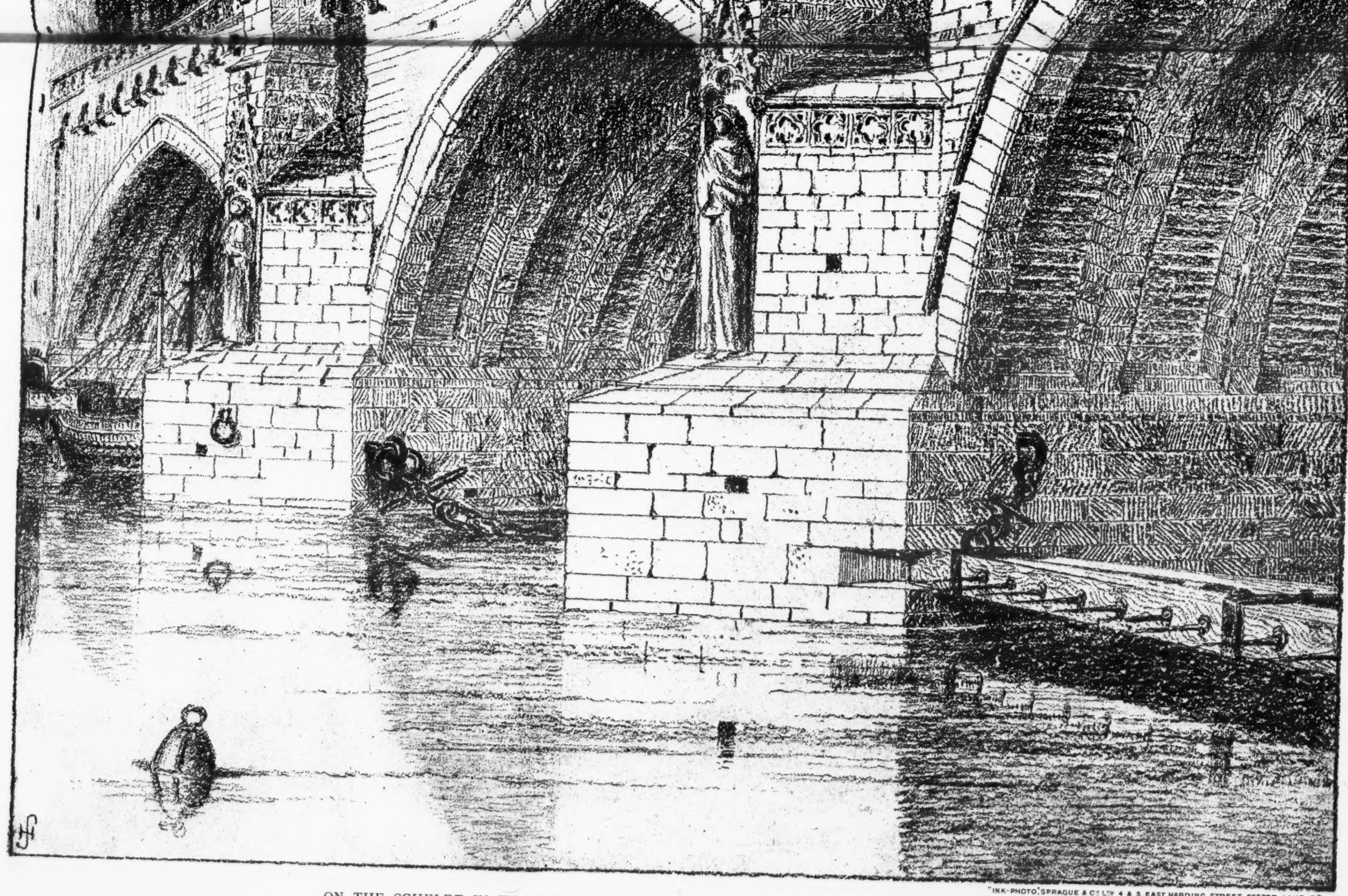


PHOTO-LITHO. SPRAGUE & Co LTD 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

ANTWERP IN THE XVIth CENTURY, WITH THE OLD RIVER WALL AND TOWERS, &c.—Drawn by Mr. H. W. Brewer.





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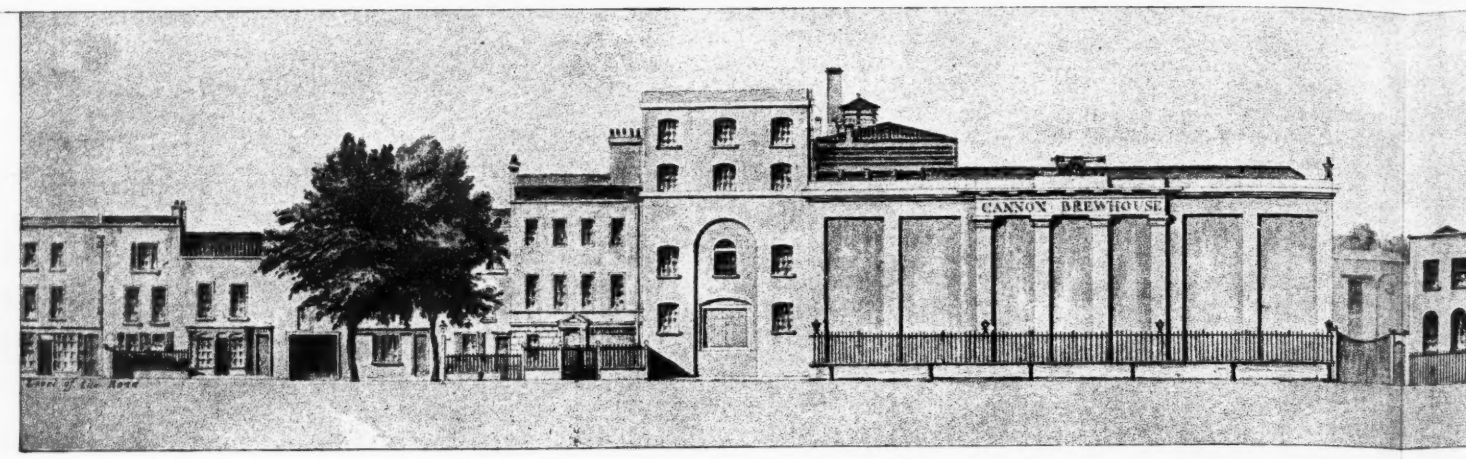
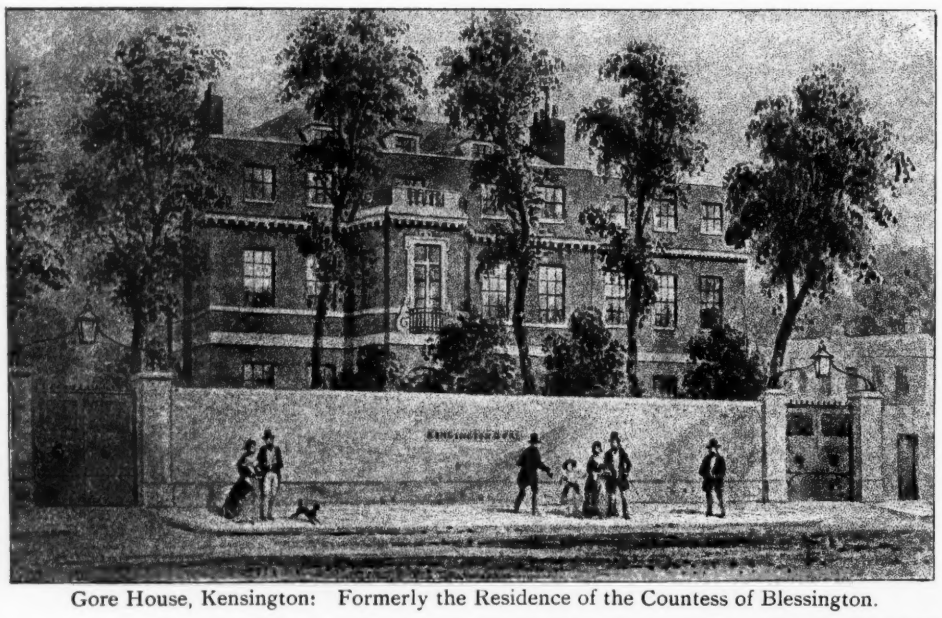
ON THE SCHELDT IN THE DAYS OF VAN ARTEVELDE.—(From a Crayon Sketch by the Editor.)

"Came the shrewd account
Of how the Scheldt was grated, gagged, jaw-lock'd,
With here a turnpike and with there a turnpike."

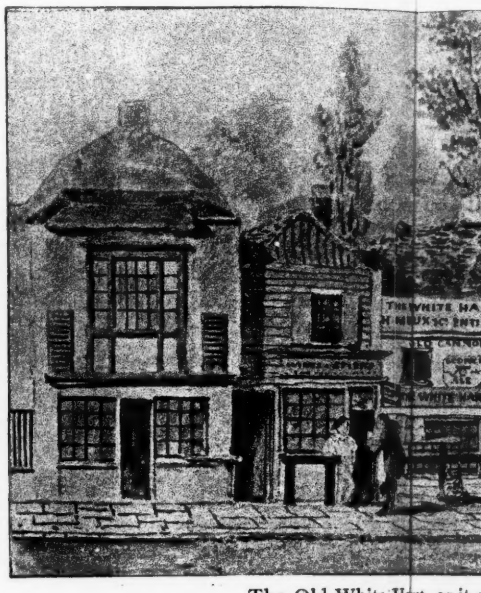
Philip Van Artevelde.



KNIGHTSBRIDGE. FROM SO

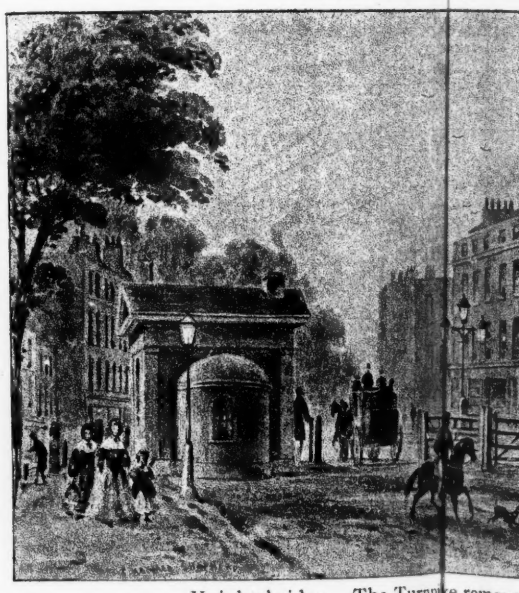


Gore House, Kensington: Formerly the Residence of the Countess of Blessington.

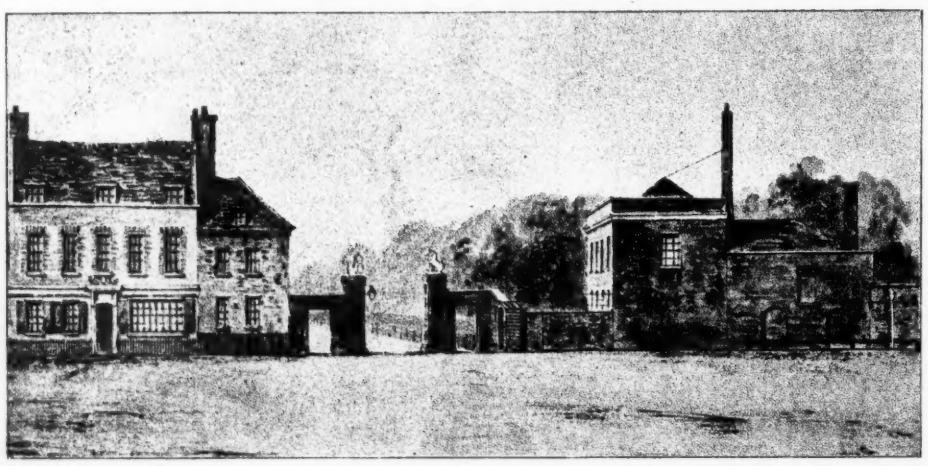


The Old White Hart, as it a

Old Houses in St. George's Place, Hyde Park Corner.

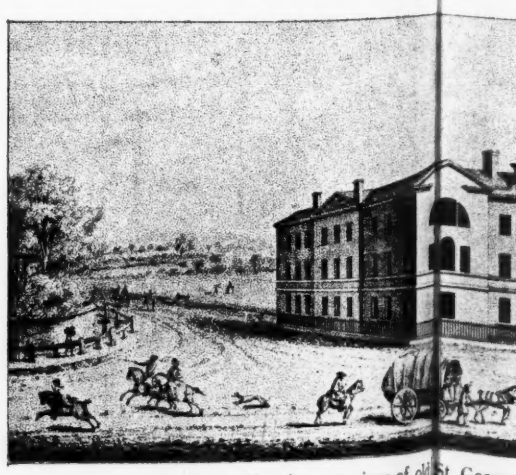


Knightsbridge. The Turnpike remove

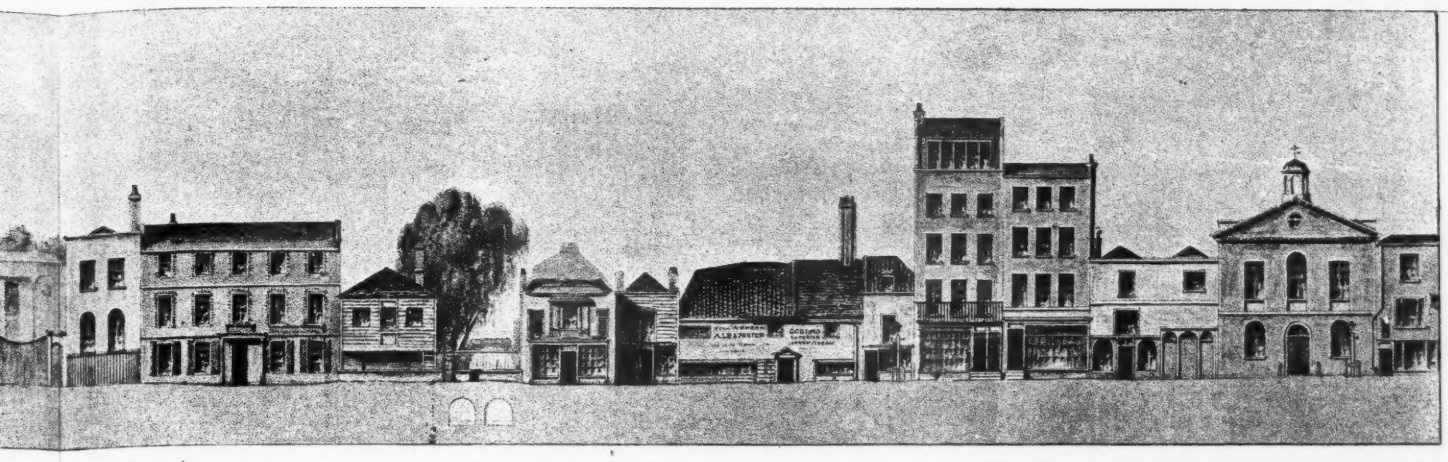


King's Arms Tavern.

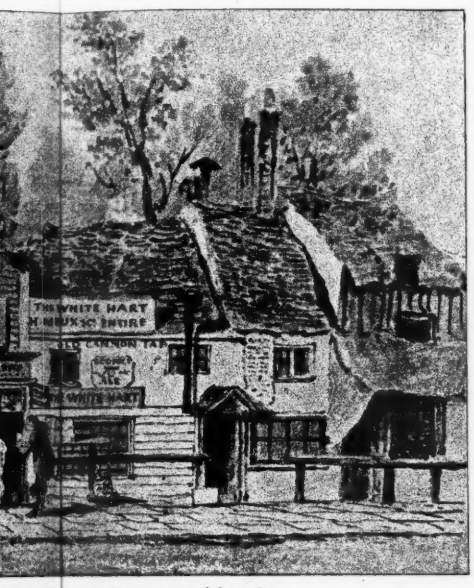
The entrance to Kensington Palace as it appeared in 1811.



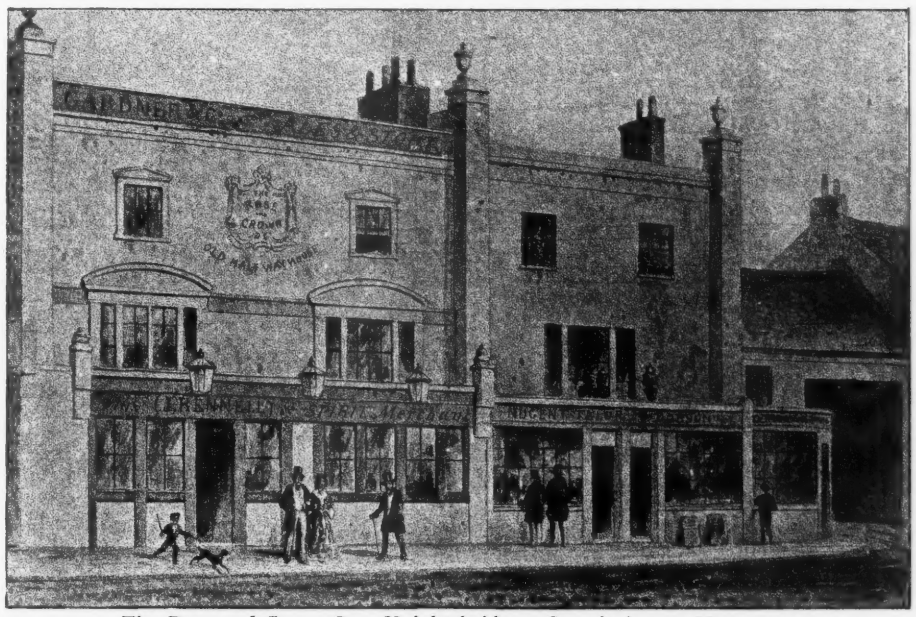
North-east view of old St. George



E. FROM SOLWAY'S SURVEY.

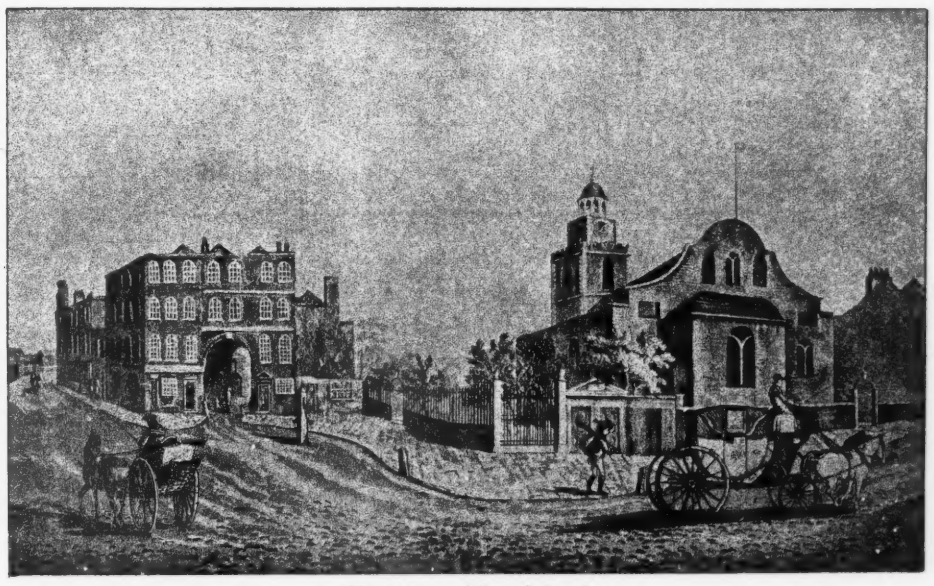


White Hart, as it appeared in 1849.

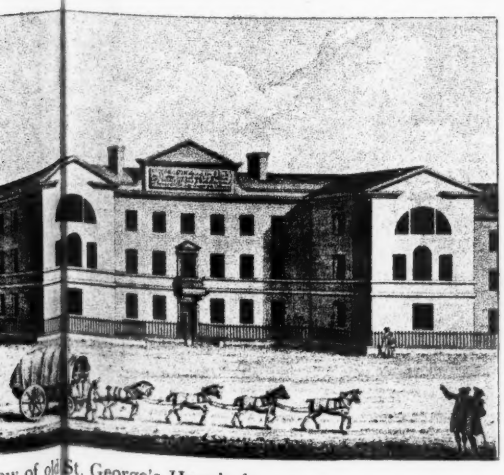


The Rose and Crown Inn, Knightsbridge. Inscription on House, 1679.

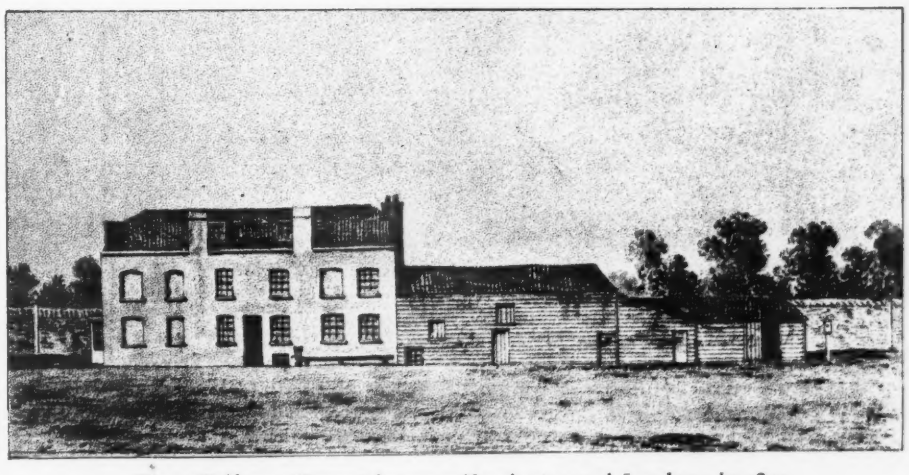
e Turnpike removed from Hyde Park.



Kensington Church in 1824.



ew of old St. George's Hospital.



The "Half-way House" between Kensington and London: in 1831.

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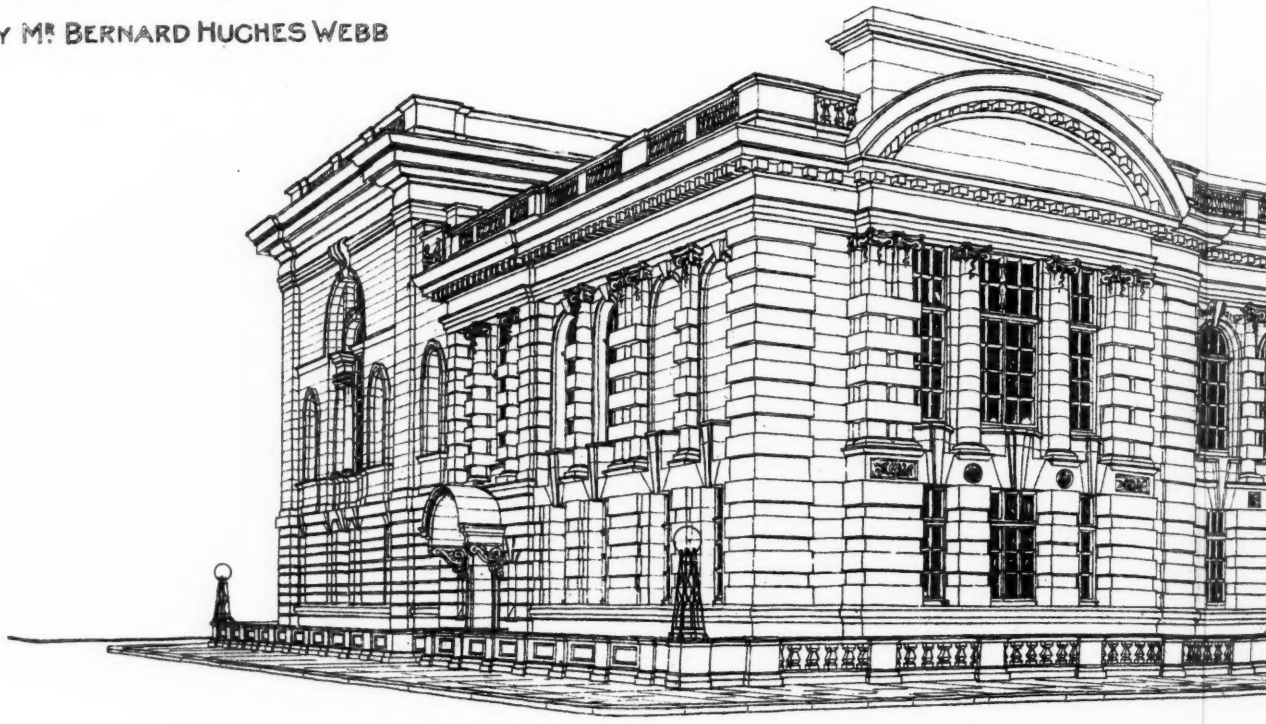
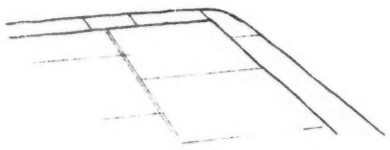
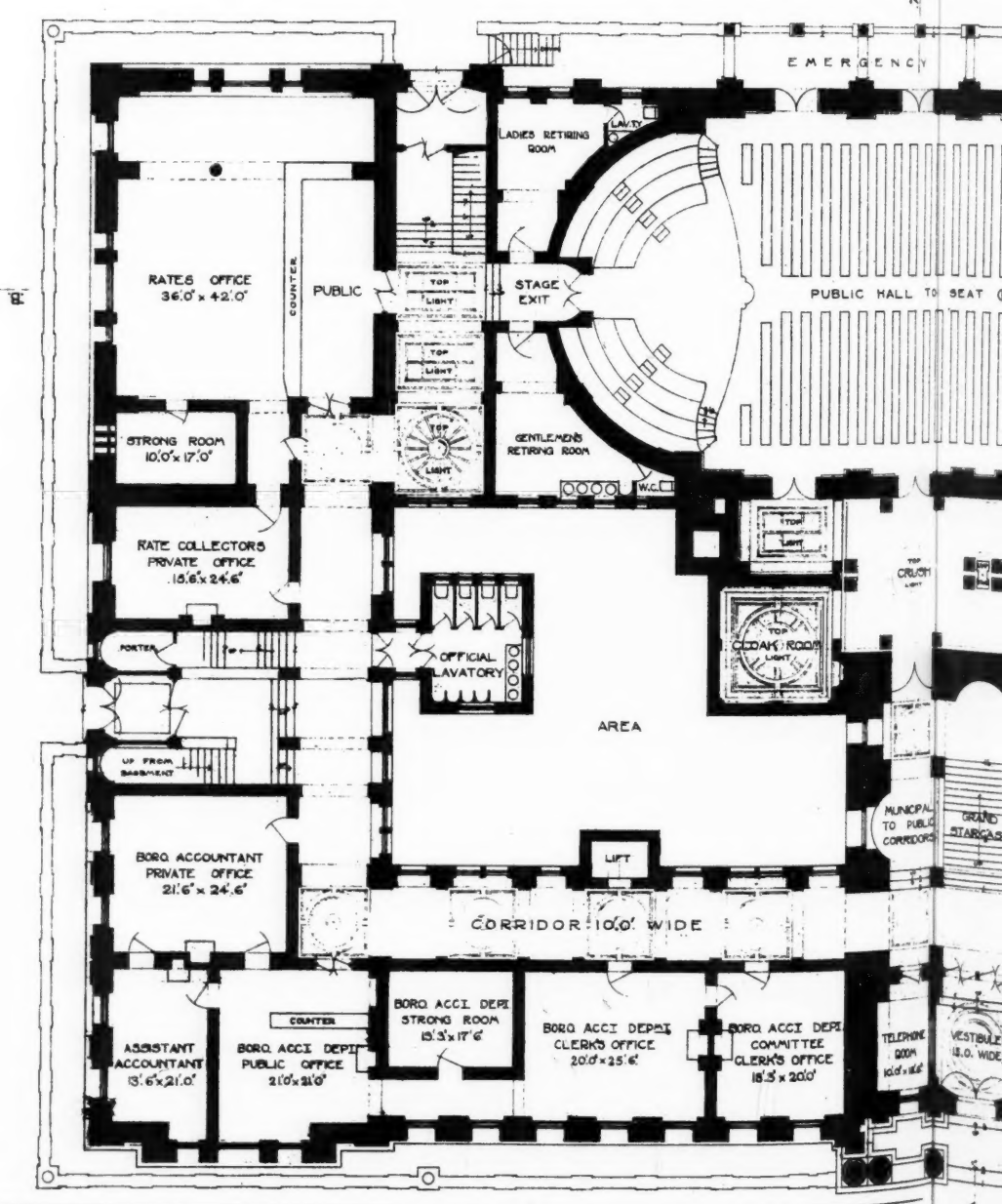
DESIGN FOR A TOWN HALL FOR A LONDON BOROUGH

PERSPECTIVE VIEW

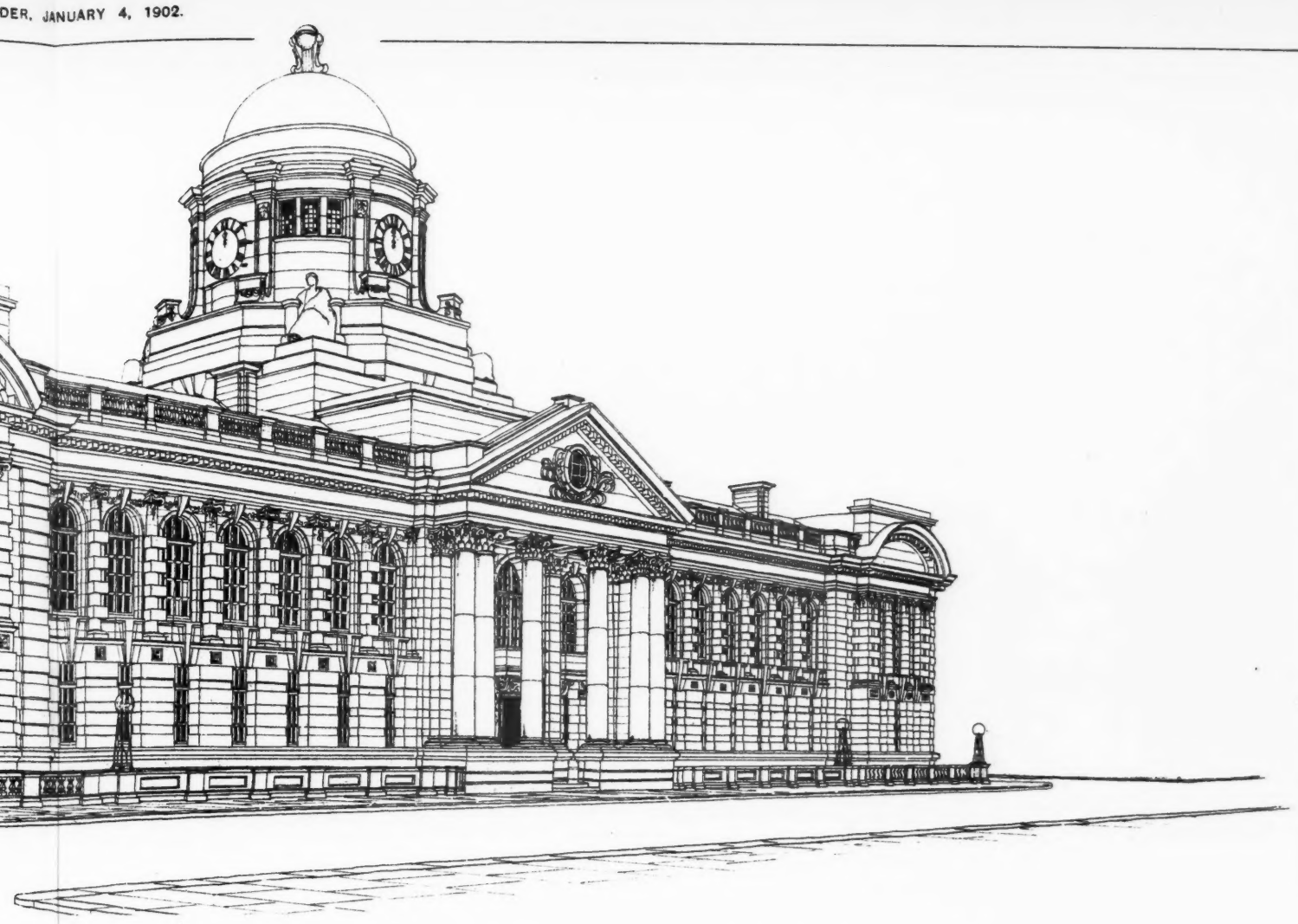
BY Mr BERNARD HUGHES WEBB







Royal Academy Gold Medal and Travelling Studentship, 1901.



SCALE OF FEET
30 40 50 60 70 80 90 100

GROUND FLOOR PLAN

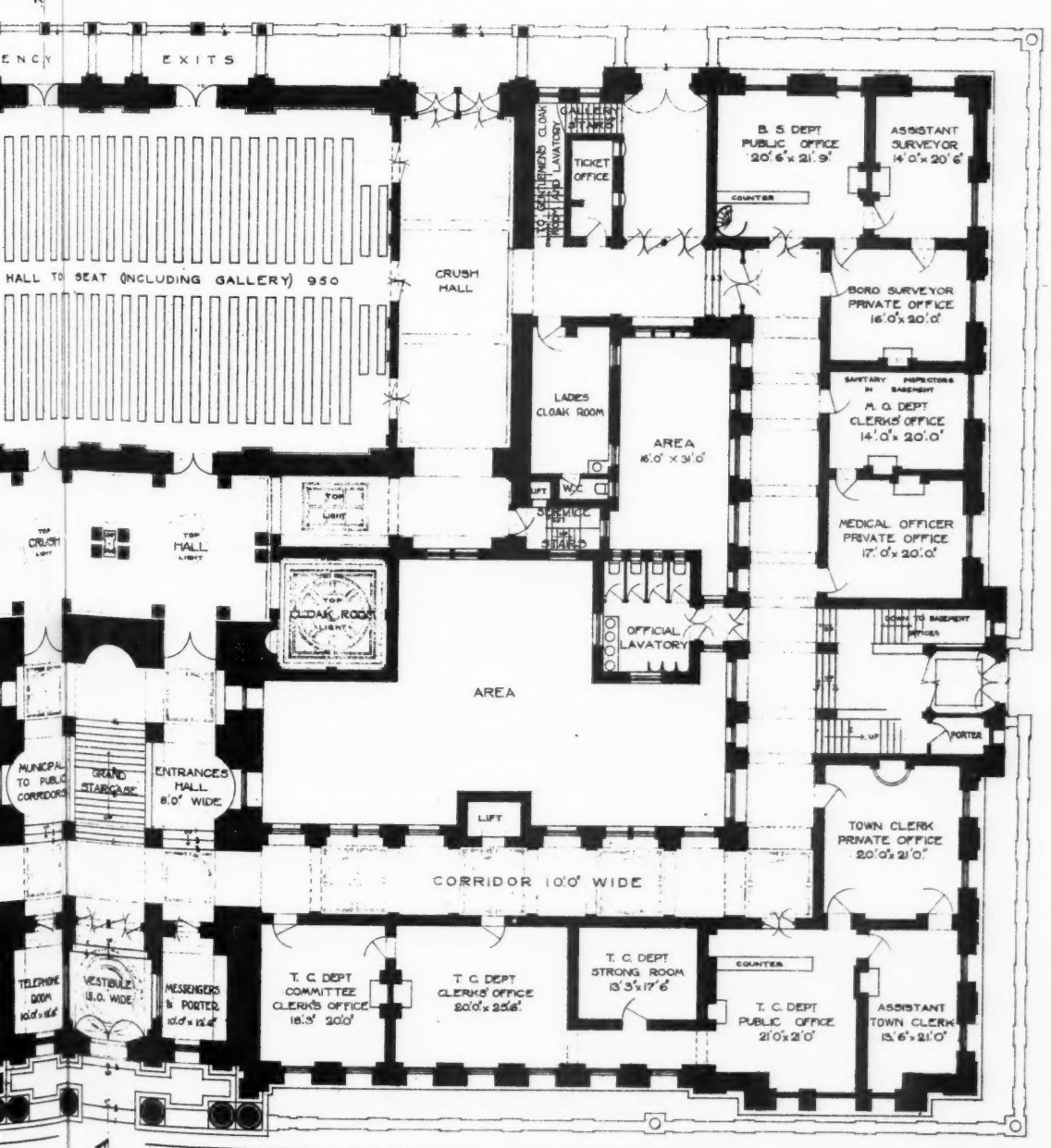


PHOTO-LITHO. SPRAGUE & Co. LTD. 4 & 5. EAST HARDING STREET. FETTER LANE. E.C.